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Tel: 0844 412 2262
From outside the UK: +44 (0) 1689 869 840

Distributed in the UK by Marketforce UK Ltd

BACKGROUND WALL IMAGES:
©SHUTTERSTOCK.COM
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Home Cinema Choice, ISSN 1359-6276, is published monthly with an additional issue in May by AVTech Media Ltd, a division of MYTIME MEDIA Ltd, Suite 25, Eden House, Enterprise Way, Edenbridge, Kent, TN8 6HF, UK. The US annual subscription price is \$68.00 (equivalent to approximately 98.00 USD). Airfreight and mailing in the USA by agent named Air Business Ltd, c/o Worldnet Shipping Inc., 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA. Periodicals postage paid at Jamaica NY 11431. US Postmaster: Send address changes to Home Cinema Choice, Worldnet Shipping Inc., 156-15, 146th Avenue, 2nd Floor, Jamaica, NY 11434, USA. Subscription records are maintained at CDS GLOBAL Ltd, Tower House, Sovereign Park, Market Harborough, Leicestershire, LE16 9EF. Air Business Ltd is acting as our mailing agent.



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NEXT ISSUE ON SALE: November 2, 2017



IFA 2017 offered new tech and fake footballers, p20

Welcome

Victor Matsuda of the Blu-ray Disc Association believes there's no such thing as an HDR10+ vs Dolby Vision format war brewing (see p20), but it's hard not to look at the split between HDR 'camps' and be reminded of previous tech battles fought by rival manufacturers. In Matsuda's defence, he can point to the industry standard HDR10 format, an ingrained part of the Ultra HD Blu-ray specification that ensures a disc will play on whatever flavour TV or deck you use. But **it might make sense for AV corps to stop denigrating HDR10** as a way of pushing more advanced variants. Never blow someone else's candle out to make yours glow brighter, as the saying goes – even if it is HDR.

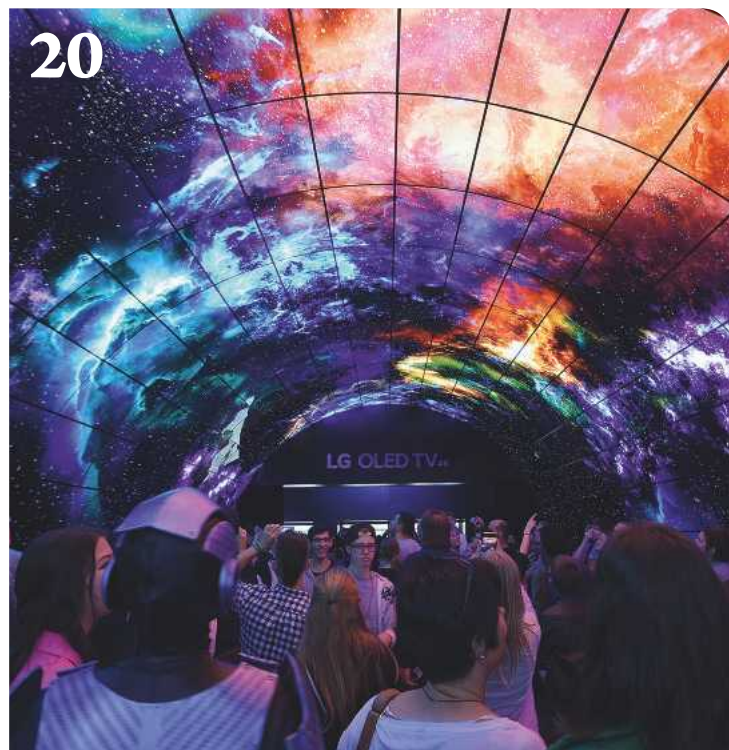


Speaking of HDR, this issue we take a look at TVs and a projector that want to give you the immersive bigscreen experience without breaking the bank, and bathe in the beauty of *Blade Runner's* 4K release. Because we'd rather do that than worry about another format war!

Mark Craven
Editor



MENU



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The UK's most experienced TV tester cut his teeth as an early HCC staffer



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Danny Phillips:
A former editor of *What Video* magazine, now a certified home cinema audio buff

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KEF R50 Dolby
Atmos speaker
modules worth
£600!
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'The UHD65 is a great 4K proposition. Feature set and image clarity are excellent'



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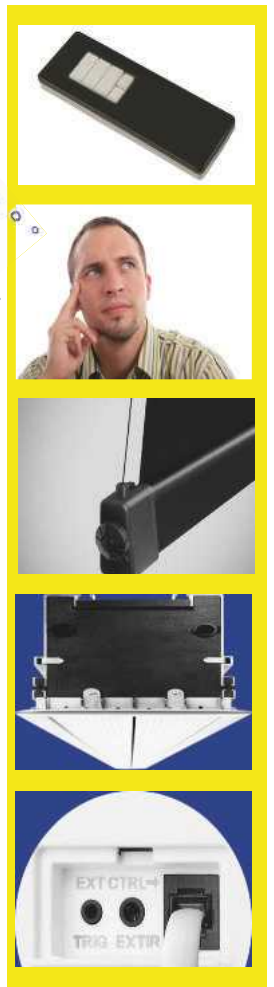
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BULLETIN

→ **NEWS HIGHLIGHTS** B&W 700 Series lineup unveiled **OPTOMA** Full HD Darbee PJ gets a gaming boost **HUMAX** Freeview Play goes multi-tuner with FVP-5000T PVR **NEWS X10** The hottest news stories in bite-sized chunks **WEBWATCH** Click here for trailers, tech **TRANSFORMERS: THE LAST KNIGHT** Will the battling 'bots look beautiful in 4K? & MORE!

Sony's laser quest

Sony VPL-VW760ES → www.sony.co.uk

Sony is following 2015's VPL-VW5000ES with another home cinema-centric 4K laser projector, this time with a much more manageable form factor and agreeable price tag. Launched at IFA, the VPL-VW760ES will sell for £15,000 when it arrives at dealers this Winter, in a chassis some 40 per cent smaller than its predecessor. HDR10 and HLG compatible, it uses the brand's traditional SXRD tech and Reality Creation and Triluminos processing. See p20 for more...

HCC ONLINE...

For breaking AV news, blogs, features and reviews visit www.homecinemachoice.com
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facebook.com/homecinemachoice

Aerofoiled again!

Bowers & Wilkins 700 Series → www.bowers-wilkins.co.uk

Replacing the CM Series, B&W's new loudspeaker range (£800-£3,300 per pair) slots into place below the 800 Series Diamond, and pilfers some high-end technology from the latter, including Continuum midrange drivers, Aerofoil woofers and tweeter-on-top enclosures. Home cinema systems can be assembled from the 700 Series' three floorstanders, three standmounts (with optional dedicated stands) and two centres, with LFE via the revamped DB subwoofer range. Finish options for all models are Gloss Black, Satin White or Rosenut.



Teufel's cinematic soundbar



Packing eight drivers and six amplifier modules (and joined by a 10in active subwoofer),

Teufel's Cinebar Pro is designed as a no-compromise TV audio booster. Two of the drivers are side-firing for an enveloping soundstage – the 'bar features Dolby Digital/DTS decoding with source gear hooked up via its four-in, one-out HDMI stage (with 4K passthrough/HDCP 2.2). Chromecast and Bluetooth are built-in. Availability is early 2018, with a price tag around £1,200. www.teufelaudio.co.uk

Take your TV anywhere!



UK TV maker Cello has solved the problem of not being able to watch TV when you're out and about – battery-powered 22in (£250) and 32in (£330) sets. Also able to run off a mains plug, the LED/LCD TVs offer 10 hours of entertainment from their rechargeable lithium-ion batteries (and come with an adaptor cable for car-charging), and are supplied with an external digital aerial for DVB-T broadcasts, plus satellite input. Both models are Full HD resolution. www.celloelectronics.com

Humax's box of delights

'Slickest ever' STB wants to be your all-in-one entertainment hub

Humax has introduced what it describes as its 'slickest ever' Freeview Play recorder. The FVP-5000T is ostensibly a cosmetic reworking of its first Freeview Play-powered FVP-4000T PVR, but marketing manager Michael Gabriel told *HCC* that there's far more to it than a cosmetic redesign.

'It's substantially different in terms of features, UI and navigational speed. The installation wizard has been updated, as has the menu design. This is a big step forward in set-top boxes,' he says.

The subscription-free recorder comes with intuitive new Smart Search functionality and a user-friendly landing page that offers curated content picks and on-demand services.

Being Freeview Play, the recorder boasts fully integrated catch-up, accessible from a roll-back seven-day EPG; it also has Netflix, UK Play and a host of streaming apps on board.

Beneath the lid are three Freeview Play tuners, which support the recording of four channels while watching a fifth. 'You may even be able to record more simultaneously,' explains Gabriel. 'It depends on your local area reception, signal strength and



Michael Gabriel: 'The FVP-5000T is substantially different... This is a big step forward in set-top boxes'

available multiplexes. 'We've had six recordings going at one time, but every region will be different.'

The new Smart Search function can intuitively pull up shows based on just a trio of characters entered. It also searches through a variety of connected sources, from Freeview itself to YouTube. Additional navigation is offered through a 'Surf and Scan' banner, allowing live TV viewers to pull up a navigation bar that enables a quick view of other shows screening at the same time.

Humax says it will add its own recommendation service before the end of the year, which capitalises on the metadata pulled from viewing habits.

A secure future

The FVP-5000T is also UPnP compatible and can share its recorded content with networked media players. It will also play back a wide variety of file types and can function as an online repository for music and photos. 'We've always looked at the STB as the obvious place to have a hub in your home. There are product developments in the offering where we're trying to expand on that,' reveals Gabriel.

The box can be paired with a Humax H3 Smart Media player for multiroom streaming. It also links direct to the Humax Eye HD cloud camera, allowing the PVR to double up as a security monitor.

And there's yet more to come. Humax confides that it will be introducing Amazon Alexa support to the new TV recorder early 2018. 'Voice control is an area we are looking to develop,' says Gabriel. 'Going forward, we think that's going to become the norm.'

The FVP-5000T is available with a choice of three hard drive sizes: 500GB, 1TB and 2TB, priced at £230, £260 and £300 respectively.



The FVP-5000T boasts three Freeview Play tuners

Playlist...

Team *HCC* spins up its disc picks of the month

Batman vs Superman: Dawn of Justice (Ultra HD BD)

The arrival of *Wonder Woman* on Blu-ray (p96) was the perfect excuse to revisit the character's first bigscreen outing on this heroic 4K platter.



Wonder Woman (All-region BD)



It may not be as well known as the 1970s TV show or the new film, but this 2009 DTV flick is one of DC's best animated adaptations.

A Fish Called Wanda (Region B BD)



A brand-new 4K restoration takes centre stage alongside a host of extras on Arrow's new HD release for the hit British comedy.

The Endless Summer (Region B BD)



Seminal surfing doc hangs ten on Blu-ray with sympathetic 1080p visuals and worthwhile extras.

Anthropophagous (All-region BD)



The blood flows clearer than ever in 88 Film's remastered re-release of this Italian splatter classic.

At the 'plex...

Heading out to see a flick?
Catch these this month

The Snowman

October 13: The first film based on Jo Nesbø's bestselling Harry Hole novels, *The Snowman* finds the troubled detective (played by Michael Fassbender) teaming up with a brilliant recruit (Rebecca Ferguson) to track down a serial killer. *Tinker, Tailor, Soldier, Spy*'s Tomas Alfredson directs.

Geostorm

October 20: *Independence Day* writer/producer Dean Devlin makes his directorial debut with this epic disaster flick about malfunctioning weather-controlling satellites.

Thor: Ragnarok

October 24: Marvel's latest features the God of Thunder teaming up with Hulk and Loki on the far side of the galaxy to prevent the destruction of Asgard. All under the watchful eye of director Taika 'Hunt for the Wilderpeople' Waititi.

Dirac targets AV novices

App-assisted setup hopes to help more users fine-tune their audio

Room/speaker optimisation specialist Dirac has announced that its Dirac Live EQ calibration will be getting a mobile device implementation aimed at the more casual users of home cinema hardware.

The app, called Mobile Dirac Live, was confirmed at CEDIA 2017, the US-based custom installation expo, held this year in San Diego. It's described by Dirac as 'an end-user version of its groundbreaking integrator-based Dirac Live room correction solution.'

Mobile Dirac Live will allow owners of so-called 'lite' home cinema AV receivers to take control of Dirac's optimisation tools without recourse to an AV professional or laptop/PC.

Explains Niklas Thorin, Dirac's General Manager of High Performance Audio: 'Mobile Dirac Live is our response to the growing demand from our partners who manufacture both high-end, integrator-installed AVR products and more entry-level products purchased and installed directly by end-users. [It] provides our manufacturer partners with the ability to offer all of their customers, regardless of their system's sophistication or complexity, a way to optimise their home theatre setup.'

Dirac says the app will be compatible with 'most AVR products' equipped with the Dirac Live audio filters and algorithms. Current partners include Arcam, Datasat, NAD, Emotiva, miniDSP, Audio Control and Theta Digital. Last year, the company announced a 'strategic partnership' with Pioneer, but as yet that hasn't



Niklas Thorin: 'It provides our partners with the ability to offer all customers a way to optimise their home theatre setup'

seen the latter's MCACC room EQ system being replaced.

The app will soon be available on Apple and Android devices. Early

screenshots show a graphically rich interface, with user-friendly icons (a sofa, and single seat...) to help with setup. Dirac promises 'step-by-step instruction and feedback throughout the calibration process.'

Trinnov upgrade

More audio news from CEDIA concerns high-end marque Trinnov, which has confirmed availability of an HDMI 2.0 board upgrade for its Altitude32 range of processors.

Trinnov says its new board supports 18GHz bandwidth and passes 4K and HDR video. But as a caveat, it does warn: 'HDMI 2.0 is still a fairly young technology and many companies have not

implemented it as completely as they might have. It seems to be working well with everything we have in the lab, but we do not own every source and every display available.'

One side effect of the new board is that it only allows seven HDMI inputs, rather than eight, so a blocking plate is supplied to fill the left-over slot.

The upgrade kit is free for Altitude models purchased after January 1, 2017, but \$700 otherwise.



Game on again with Darbee PJ

Optoma HD39Darbee projector promises quick, bright visuals with added depth

The HD39Darbee is Optoma's latest affordable DLP projector to integrate the customisable image manipulation tech, this time joined by a claimed 16ms response time perfect for bigscreen gamers. Pricing is £900.

The PJ delivers Full HD images via a 1.4-2.24:1 throw ratio, with an impressive brightness rating of 3,500 Lumens – 'gamers can enjoy super-size cinema-quality picture in their own home without dimming the lights,' say Optoma.

Vertical lens shift and a 12V trigger are present to increase setup flexibility. Connections

The new projector also supports 3D and features a 1.6x manual zoom



on the smallscale model (it measures 314mm wide) include two HDMI inputs (both v1.4), with a wireless connection possible using Optoma's optional WHD200 transmission gizmo. A powered USB port is on hand for HDMI dongle devices such as Chromecast and Amazon Fire.

Boosting visuals is the brand's Amazing Colour processing, which aims to ensure 'vibrant, long-lasting and accurate colours,' albeit within the REC.709 colourspace. An onboard 10W speaker system handles casual audio, linked to a 3.5mm output. www.optoma.co.uk

Hygge.

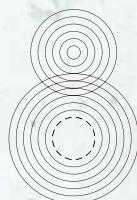
Who says it needs to be all about lamps and couches?

“What are you doing for your 40th birthday?”, everyone asked. We thought about it and decided that since we aren't wild about lavish cakes (although we do love a tasty fastelavnsbolle), we'd celebrate a little differently. Even the *thought* of making new speakers makes us warm and fuzzy, so that's what we chose to do.

Meet the Special Forty: hygge for your ears.

Laurels aren't for resting on, which is why we gave Dynaudio Labs free rein to play. (It gave our accountants a heart attack.) Our only instruction: take our classic tech and see what you'd do differently this time. Their design was nothing short of genius.

They took our classic Esotar 28mm soft-dome tweeter design, put our DSR* precision coating on it, and then **machined an aerodynamic vent** directly into the powerful neodymium magnet. Then they added more damping material and another pressure-release conduit. Take it apart and look behind it: it's a work of art (except please don't; we spent ages putting it together).



We made the drivers' frequencies overlap so we could keep the first-order crossover simple. After all, why add things that might affect the signal if you don't have to?

We called the new tweeter the Esotar Forty, and it's exclusive to this speaker.

We also gave the Special Forty a new woofer, made from our own super-stable Magnesium Silicate

Polymer. Its dome is coupled directly to the voice-coil for incredibly precise midrange performance. That's aided by the **new AirFlow Basket** – an aerodynamically shaped chassis that optimises rear airflow and isolates the driver from unwanted vibrations and resonances.

The woofer also has a **custom magnetic field** – one we created in the lab – thanks to a unique hybrid magnet system. It's part ferrite, part neodymium, and it physically manipulates flux to bend it around the voice-coil for greater power and efficiency.



The magnet sits inside the voice-coil (others put it outside). That lets us beam its energy to where we want it to go – not where it wants to go.

Those innovations mean the tweeter can reach down to 1000Hz, and the woofer up to 4000Hz. That overlap means smoother integration between treble and bass, and **performance that borders on mesmerising**.

We don't want to bore you with the maths, so here's the English: the extra air movement and flux containment means we have more control over how the tweeter and woofer move. And that means **a more detailed, precise and honest performance**. Just what we (and you) want.

This is a simple-looking speaker. Sure. But wait until you see its Grey Birch High Gloss and Red Birch High Gloss finishes. We painstakingly laminate Finnish Birch veneers many, many, *many* times and cross-cut

them to achieve this striking pattern. Then we use special stains to bring it out even further. Nice, isn't it.



The biggest decision you'll make today: Red Birch High Gloss or Grey Birch High Gloss? (Or just get one of each. You know it makes sense.)

We want to know what you think.

Join our Special Forty group and together we'll take our technology to the next level. That's right: you can be actively involved in shaping the future of our R&D. And you might even find your idea making it into our next-generation speakers. There's a fastelavnsbolle – and warm feelings of hygge – in it for you if you do.

www.dynaud.io/SpecialFortyForum

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Special speaker.
Special Forty.**



*Wondering what 'DSR' stands for? It's Dynaudio Secret Recipe. And that's all you're getting out of us – apart from a fantastic tweeter, of course.

Extras...

Small items that could make a big impression...

LEGO Star Wars: Millennium Falcon



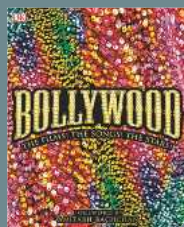
Clocking in at a mammoth 7,541 pieces, this latest addition to the LEGO Ultimate Collector's Series lineup is the Danish toymaker's largest model to date and carries a similarly sizable £650 price tag! Measuring 560(w) x 210(h) x 840(d)mm, the model even packs two different radar dishes allowing you to switch between the 'classic' and Ep VII/VIII versions of the ship as well as seven minifigures from the classic and new films.

Godzilla FAQ



With *Shin Godzilla* having finally made it into selected UK cinemas, what better time to invest in a guide to the entire franchise? While author Brian Solomon's unofficial £15 book struggles to find anything new to say about the films themselves, it does an excellent job of profiling those who brought them to the screen.

Bollywood: The Films! The Songs! The Stars!



As actor Amitabh Bachchan points out in his foreword, 'Hindi cinema... is the largest film-producing unit in the world,' but its one whose history has been extremely poorly documented. DK's gorgeous tome sets out to rectify that, guiding you through a history of Hindi cinema from 1913 to the present day, highlighting key players and movies along the way. Yours for £25.

Voice control is not a fad

Smart assistant speakers dominate tech expo, and big AV could be next

You didn't need to ask Alexa what the theme of this year's IFA tech expo was. Artificial intelligence and smart assistant sound systems dominated the show, with a rush of connected speakers supporting both the Google Assistant and Amazon platforms breaking cover. But are they the future or a fad?

Ralph Santana, Executive Vice President and Chief Marketing Officer for the Harman Audio Group, has little doubt. 'Artificial intelligence is here to stay,' he told *HCC*. Santana says the explosion of interest in smart assistant speakers and related technologies is the natural evolution of the connected music system, and he predicts voice control will soon move from compact speakers to premium AV systems.

The group, which owns a plethora of renowned audio brands including Arcam, Lexicon and JBL is committing heavily to the technology, offering speakers for both Amazon Alexa and Google Assistant fans.

'The technology has been on the road map for a long time,' he says. 'Finally we're seeing some products that are consumer friendly.'

The allure of Alexa

Harman/Kardon's £250 Allure sits at the high end of this vocal market. Using the Amazon Alexa platform, it combines a 360-degree sound system with a transparent design incorporating ambient lighting which reacts to voice commands and pulsates to music.

For Google Assistant enthusiasts, Harman has introduced the JBL LINK series. Available in three models – the LINK 10, LINK 20, and LINK 300 – the LINK brings a portable twist to the market. The pill-like LINK 10 and LINK 20 boast five and 10 hours of battery life respectively, and have an IPX7 waterproof design. The Link 300 is a larger, circular living room design.

'There's no doubt we're seeing a renaissance with regard to audio and acoustics,' says Santana. 'There was a time when it was appreciated, and a time when it wasn't, but we've now come full circle. People care about acoustic quality, and that makes a big difference.'

The Harman honcho says there's no reason that AI can't proliferate beyond compact desktop speakers to high-end audio systems, given time. 'Audiophiles are consumers too, and they will adopt AI in some way or another,' he predicts. 'There's certainly room for an über-premium sounding AI component in your house. Don't underestimate audiophiles,



Ralph Santana: 'Don't underestimate audiophiles, they're very sophisticated technologists'

they're very sophisticated technologists. AI is going to permeate everybody's life.

We can see complete integration with premium sound. That is the proposition we have as a company.'

Google market growing

Harman isn't alone in embracing the tech, either. Both Panasonic and Sony have also announced smart speakers at IFA 2017.

Panasonic aims to put audio quality first with its SC-GA10 Google speaker. Combining a designer aesthetic and convincing sonic performance, the speaker had no problem filling Panasonic's IFA demo room with clear, deep tunes. Price is as yet TBC.

'From data that we have so far, Google has taken 30 per cent of the wireless speaker market, just three months after launch,' Fabrice Estornel, Panasonic's GM for Home AV, told *HCC*.

Sony's competing Google offering is the LF-S50G, which features an omnidirectional design with full-range diffused driver and dedicated subwoofer.

One beneficial feature of Sony's £200 offering is that you don't have to use the 'OK Google' wake words before issuing a command; gesture control allows users to sweep a hand over the speaker to attract its attention. Other niceties include an LED clock display and splash-proof design.

Sony says it will bring Google Assistant functionality to select Bravia Android TVs by the end of the year, allowing full control integration via the LF-S50G speaker.



JBL's LINK 300 (above) and Panasonic's SC-GA10 (main) smart speakers



This month's top 10 news stories in handy, bite-sized chunks...



1 GoT breaks more piracy records

The latest season of *Game of Thrones* has maintained the show's record-breaking popularity with pirates. According to a report from anti-piracy analyst MUSO, the show's seventh season has been illegally downloaded or streamed over 1 billion times. Of the 1.03 billion reported instances of piracy, 85 per cent were streams, while just 9 per cent were torrents and 6 per cent were downloads.

2 Apple does 4K

Apple has launched a 4K version of its Apple TV set-top box in the US. Due to roll out in other countries (including the UK) before the end of the year, the box supports HDR10 and Dolby Vision, and the user interface has been optimised for 4K. The company will also be adding 4K films to iTunes, priced identically to the 1080p versions.

3 A spellbinding 4K boxset?

It looks like there's finally some good news for Harry Potter fans who have held off from importing any of the 4K discs from the US. Online retailer Zavvi has a listing (with artwork) for a bumper *Harry Potter: 8-Film Collection* UHD Blu-ray boxset. It's due for release on these shores on November 6, priced around £100.

4 Switch on to projection

LA-based company YesOJO is seeking crowdfunding support for its OJO combi dock and portable Full HD micro-projector for the Nintendo Switch. The company claims the OJO can project a 30in-120in image at 200 Lumens and boasts a four-hour battery life. An HDMI input allows the projector to be used with other devices, too. Visit www.yesojo.com for more information.

5 Players get MQA update

Owners of Onkyo's DP-S1 and Pioneer's XDP-30R pocket-sized digital audio players can now enjoy downloaded MQA tracks thanks to a recent firmware update (v1.10/17906AEO). Other changes include a 'resume' function that restarts from the beginning of the last song after switch off, plus stability improvements.

6 eBay takes on Amazon

Online retail site eBay is making a big play for the UK's physical media market with the launch of a dedicated category hub for new, catalogue and pre-owned films, games, music and books. 'The launch of The Entertainment Shop is a natural progression for eBay that will offer brands and sellers of all sizes the opportunity to capitalize on the UK's enduring appetite for physical media,' says eBay UK vice president Ron Hattrell.

7 Automatic for Atmos

R.E.M.'s *Automatic for the People* turned 25 this year and Craft Recordings is celebrating by re-releasing the album in a four-disc 'Deluxe Anniversary Edition' on November 10. One of the discs houses a version of the album remixed in Dolby Atmos from the original analogue tapes!

8 DVD dropped

Powerhouse Films has announced that its Indicator imprint will be ceasing production of Dual Format Editions and switching to Blu-ray-only releases from this month onwards. The company says this will help 'improve the amount of available funds for the creation of extras and licensing film catalogues.'

9 Cult horror goes 4K

UK indie label CultFilms has revealed plans to release a 4K restoration of Dario Argento's classic shocker *Suspria* on Ultra HD, Blu-ray, DVD, VOD and in cinemas on these shores. Curiously, this will reportedly be a different 4K restoration to the one that Synapse is releasing in the US on BD.

10 This probably isn't the TV you've been looking for...

No, it's not a Jedi mind track. Toshiba really is planning to cash-in on the cinema release of *The Last Jedi* with a *Star Wars*-themed 24in HD Ready TV. Apparently designed in collaboration with Lucasfilm, the display's chunky bezel is festooned with X-Wing Fighters and the TV produces familiar sights and sounds from the films when turned on and off. One for the kids, perhaps?



Premiere...

What's happening in the world of TV and films...

The Force isn't with Jurassic World director



Only a matter of months after Phil Lord and Chris Miller were fired from the *Han Solo* movie, Lucasfilm has now parted ways with *Star Wars: Episode IX* director Colin Trevorrow. *The Force Awakens'* J.J. Abrams will now return to co-write and direct the final part of the new trilogy.

Suicide Squad sequel finally finds director

It appears that Warner Bros. has at last found a director willing to take on the *Suicide Squad* sequel. After trying and failing to land the likes of Jaume Collet-Serra and Mel Gibson, the studio has announced that *Warrior's* Gavin O'Connor will direct the comic caper.

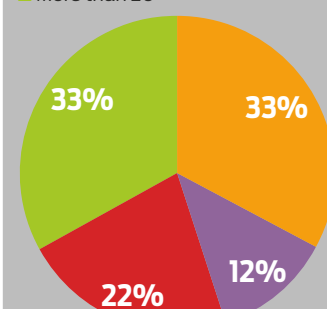
Confidential news

Lionsgate and CBS are reportedly developing a TV series based on James Ellroy's *L.A. Confidential*. Hopefully it will do better than the 2003 effort, starring Eric Roberts and Kiefer Sutherland, which never got past a pilot being shot.

We asked...

How many Ultra HD Blu-rays do you own?

- None
- 1-5
- 6-20
- More than 20



Results from www.homecinemachoice.com
Go online for more polling action

Transforming home cinema

Transformers: The Last Knight → Paramount
→ DVD/Blu-ray/3D Blu-ray/Ultra HD Blu-ray

In 2014 Paramount reinvigorated the home cinema audio landscape by including the first ever domestic Dolby Atmos soundtrack on its *Transformers: Age of Extinction* Blu-ray. On October 30, it's again pushing the boundaries as it unleashes *Transformers: The Last Knight* on Ultra HD BD, with 4K visuals aided by the studio's first foray into the world of Dolby Vision HDR. Atmos sonics will once more bring the film's mechanical mayhem to life, accompanied by 80 minutes of bonus bits on additional Full HD discs. 3D fans will have to pick up a separate BD release.



Back of the 'net

Trailers, technology and more to check out on the web



'Big VFX shot with bwaaa'

Do all blockbuster movie trailers follow the same template? YouTube channel Auralnauts certainly thinks so, and has put together this persuasive (and funny) step-by-step breakdown. Watch it, and it's hard not to imagine Transformers or X-wings zipping around the screen...

youtu.be/KAOdjyG37A



'I was looking for six replicants...'

Speaking of trailers, here's the original 1982 one for *Blade Runner* (now out on 4K Blu-ray, see p104), which certainly shows how Hollywood has upped the ante when it comes to hyping movies. Oddly, while being heavy on the film-noir voiceover, it appears to be someone pretending to be Harrison Ford.

youtu.be/eogpIG53Cis

Face to Face

Topics of discussion on the HCC Facebook page

Horror flick favourites



Poltergeist. Saw it when I was young and I wouldn't go upstairs without the light on. Still don't now and I'm 46! I can't have a TV on with static and don't even get me started on clown dolls...

Ian Brown

The original *Texas Chainsaw Massacre*. It's not blood and guts and relies on atmosphere.

Stewart Heed

Halloween. John Carpenter nailed the soundtrack perfectly to build the suspense.

Ben Goff

Return of the Living Dead, with the mortuary, graveyard and barrels. Not because it was especially scary, but because I was about 10 and had to cycle back home from my friend's house in the dark after!

Gaven Eogan

What you're watching on your home cinema...



Tarantino weekend. *Kill Bill 1 & 2*, *Jackie Brown* and *The Hateful Eight*. Brett Gidlow

Alien Covenant UHD Blu-ray and *Prometheus* UHD Blu-ray. Probably in that order, because I've seen *Prometheus* about 10 times and never seen *Covenant*.

Jonny Roman

Forget *50 Shades...*, I'm watching *The Girlfriend Experience: Season One*!

Robert Corrigan

Guardians of the Galaxy: Vol 2 in 3D again. Just great fun.

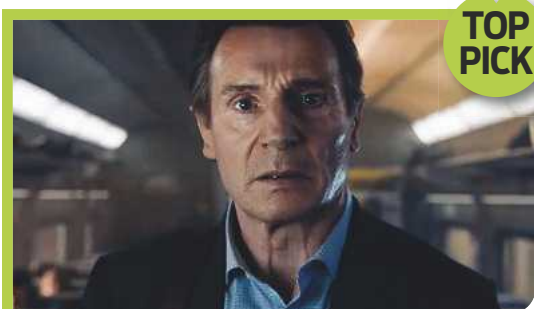
Steve Michael Clark

Just got *The Martian* and *Deadpool* for a tenner from ASDA, so there we go.

Mike Short

Join in the fun

Like our page at facebook.com/HomeCinemaChoice



TOP PICK

All aboard the Neeson express

After *Unknown*, *Non-Stop* and *Run All Night*, Liam Neeson unites with director Jaume Collet-Serra again for thriller *The Commuter*, hitting cinemas in January. The actor has recently pledged to quit making action movies, so fans of Neeson throwing punches should make a beeline for the multiplex.

youtu.be/aDshY430I2U



Wide-eyed wonders

The Widescreen Weekend returns to Bradford's National Science and Media Museum, October 12-15. Highlights include 70mm screenings of *Dunkirk* and *The Untouchables*, *The Wonderful World of the Brothers Grimm* in 3-strip Cinerama, a demo of Barco's new extra-wide Escape format, and more.

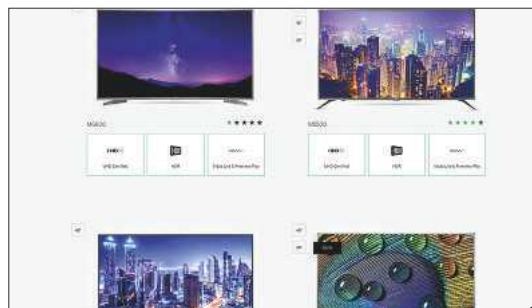
www.scienceandmediamuseum.org.uk



Show me the money

Ridley Scott has found time to helm true-story thriller *All The Money in the World* (about the 1973 kidnapping of the grandson of billionaire John Paul Getty) in between visits to his *Alien* universe. Michelle Williams, Mark Wahlberg and Kevin Spacey headline what looks set to be a tense ride. In cinemas January.

youtu.be/6x62O8A8qHwU

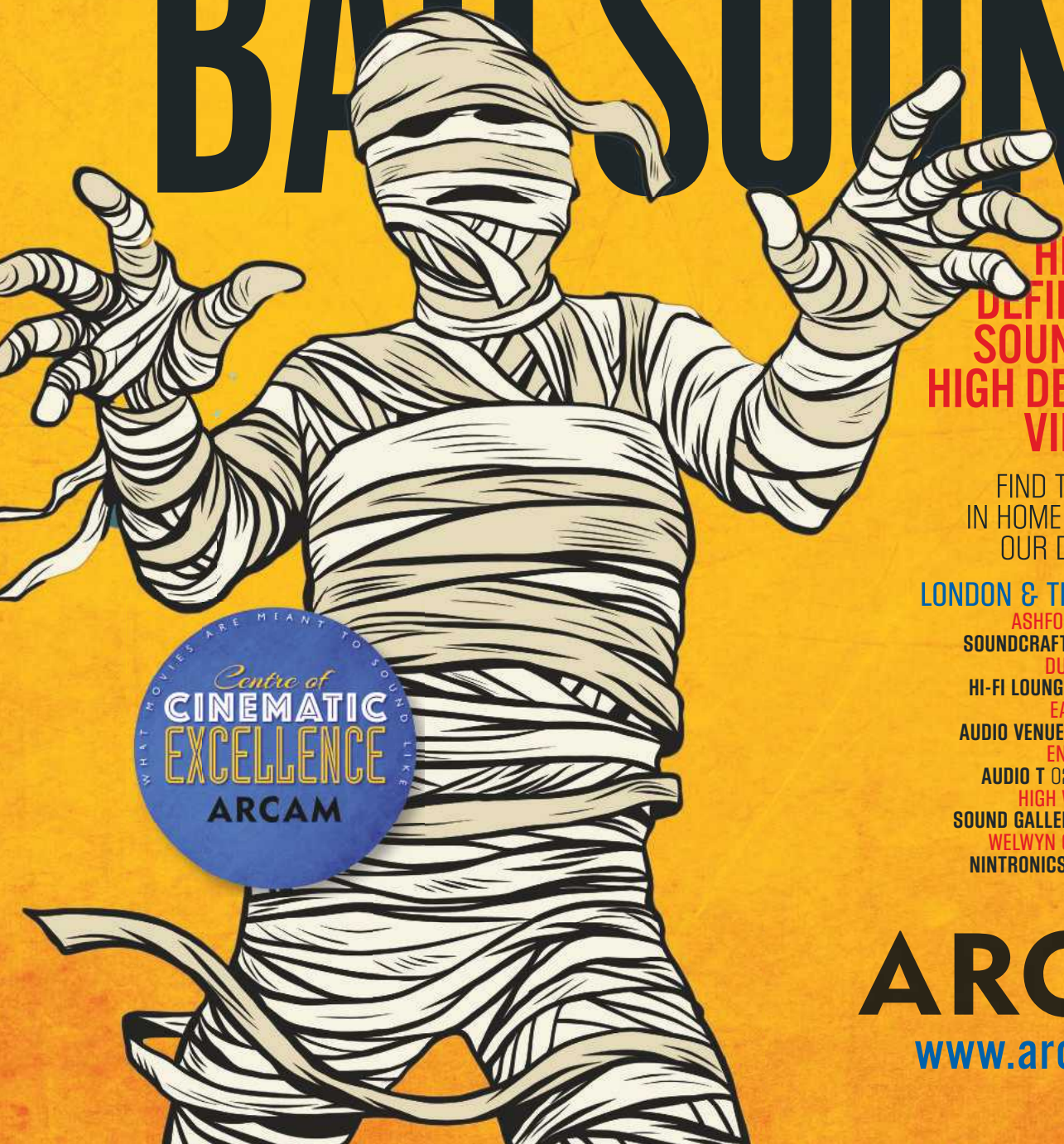


Doors of perception

Hisense UK has given its website an overhaul in an attempt to change how people perceive the brand. Boasting new functionality and glossy photography, the new-look site apparently 'marks a shift in perception of Hisense from a purely budget brand to one which is focused on high quality and value.'

www.hisense.co.uk

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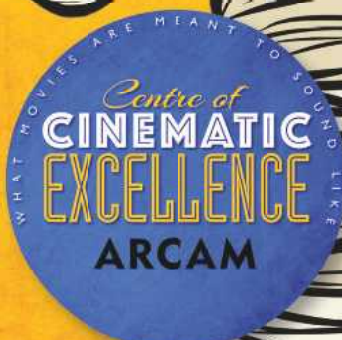
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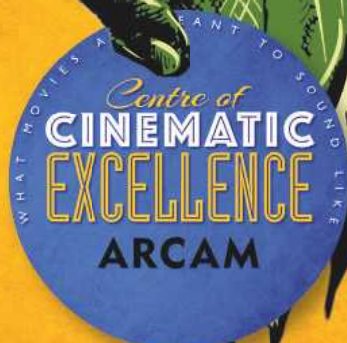
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SLOUGH

EPIC HOME CINEMA 07429 370015

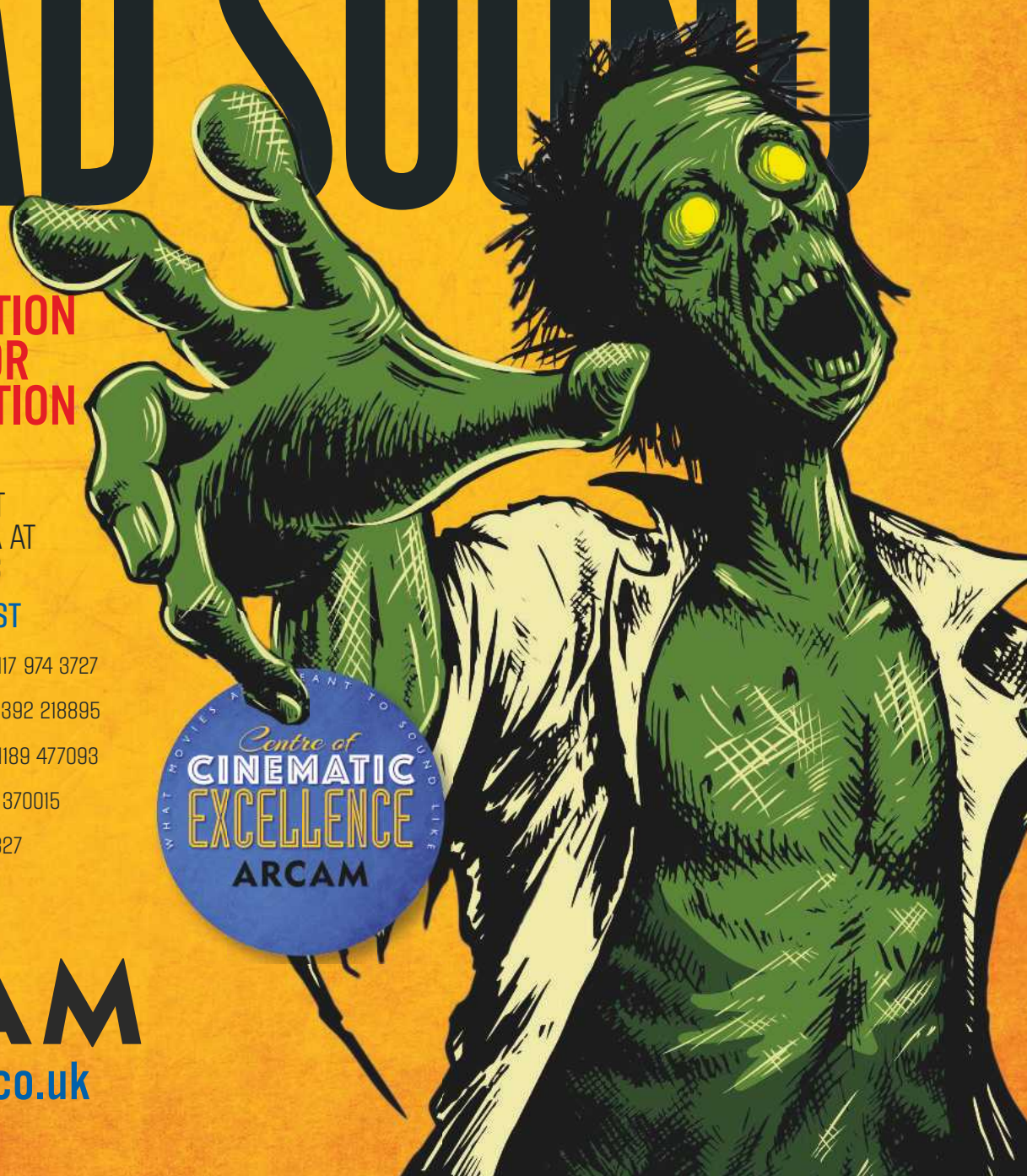
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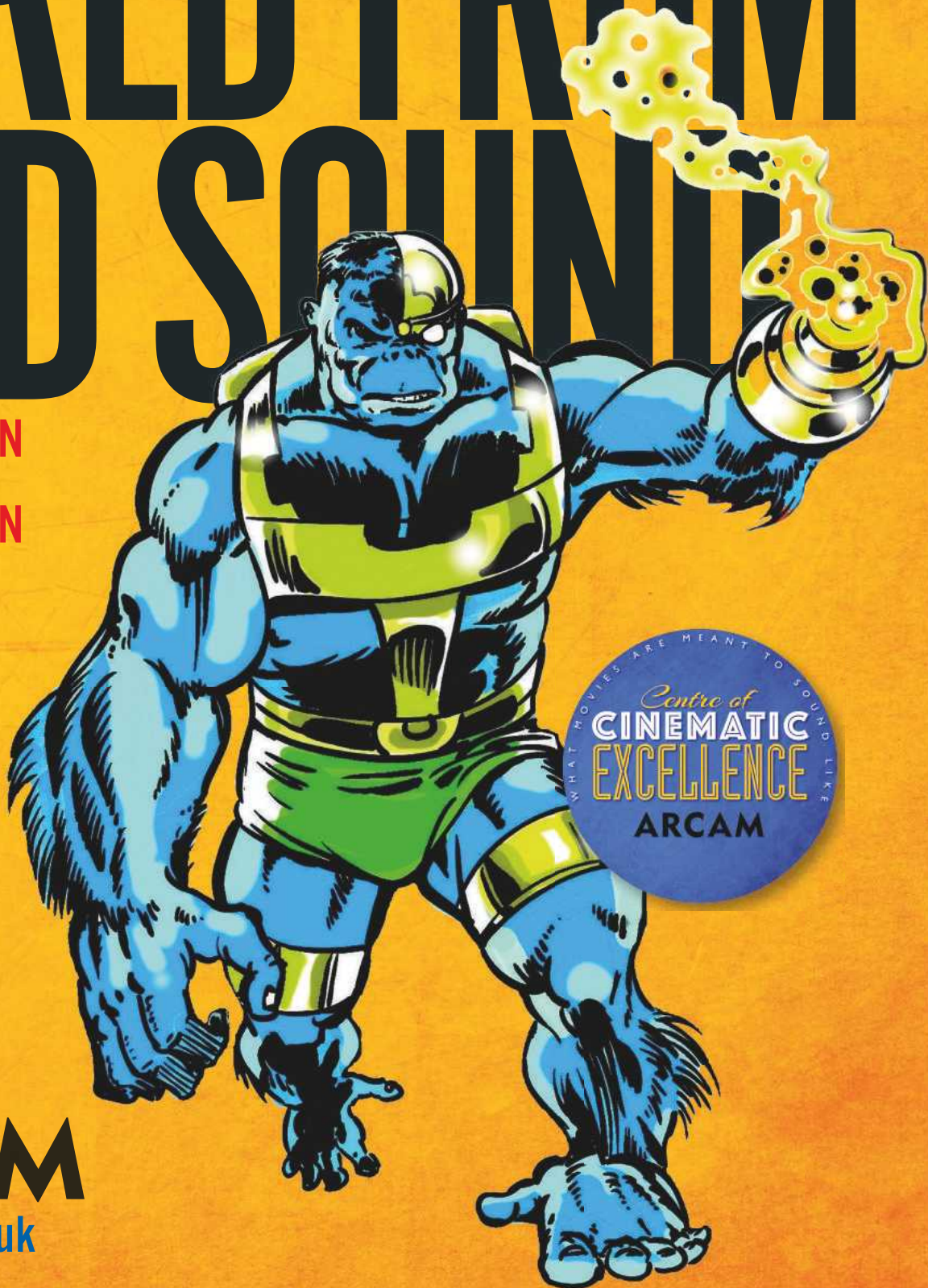
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IFA 2017

A new format war?

The annual technology expo witnessed an explosion of smart speakers, revamped projector ranges, OLED TV challengers and a new HDR alliance. **Mark Craven, John Archer** and **Steve May** report from Berlin

LG, with its Dolby Vision OLED TVs, faces competition from the HDR10+ brigade...

HDR10+ gains friends...

When the IFA tech show debuted in 1924, attendees probably didn't imagine that over 90 years later it would have grown so large, or that consumers would be stuck choosing between different flavours of HDR. Yet this year's event, held in early September in its usual Berlin stomping ground, was not only huge – over 1,800 exhibitors across 160,000m² of hall space – but marked from its very beginning by an announcement that Samsung had enticed both manufacturer Panasonic and studio 20th Century Fox to support its HDR10+ format.

Unlike vanilla-flavoured HDR10, the dynamic metadata behind HDR10+ automatically optimises brightness, colour and contrast for each scene for any given piece of content. Demo clips at IFA showed a significantly 'poppier' image quality, although some previews were more accomplished than others.

A groundswell of interest in HDR10+ threatens to put a spoke in Dolby's plans to dominate the premium HDR space with Dolby Vision. And with the promise of royalty-free use, other electronics brands and content providers could quickly jump onboard.

Panasonic spokesman Fabrice Estornel admitted to *HCC* that the development confuses an already befuddling situation regarding HDR standards. 'It's complicated,' he said. 'In this business we are quite good at confusing things, but HDR10+ is a great system.' He revealed that a firmware update for Panasonic's 2017 Pro 4K TV screens (right) is on the





Samsung offered a side-by-side demo of HDR10+ (right) with HDR10, using footage from Amazon's *The Grand Tour*

cards to enable HDR10+. Currently, there are no announcements regarding compatible Ultra HD Blu-ray players, or discs from Fox, but that's down to the fact that HDR10+ is not yet part of the UHD Blu-ray spec. However, Blu-ray Disc Association honcho Victor Matsuda suggested to HCC that adoption of the format was highly likely – we're guessing it'll be rubber-stamped before CES in January 2018.

Matsuda went on to argue that it was wrong to paint any HDR10+/Dolby Vision rivalry as a format war. Yet with different TV brands and studios currently supporting one but not both formats, consumers may well feel it's exactly that.

From a studio perspective, HDR10+ is easy to implement in terms of workflow, according to Danny Kaye, Executive VP at 20th Century Fox. 'It also has the potential to develop from a 10-bit system to 12-bit, when 12-bit panels become available,' he said.

Kaye suggested that the real value for dynamic metadata wasn't on high-end TVs at all. It was more about allowing budget TVs with low peak brightness to better present HDR content in a way that works for those panels.

TV giants hold firm

Samsung, Panasonic and Sony all had new 4K displays at IFA, although not much to get tech-watchers particularly excited.

The former maintained its silence on OLED TV, and kept the Q9 series QLED as its flagship. Innovation came in the form of flat versions (55in and 65in, 55Q8F and 65Q8F respectively) of its Q8 series, previously only available in curved models. Samsung explained the additions as being in response to 'demand from European consumers seeking premium, flat and mid-size TVs.' Also launched was a 43in model of Samsung's art-meets-tech TV, dubbed The Frame. A highlight of its booth was a gallery of Frame TVs, mixing video-wall visuals with changing images on the screens themselves. Stunning to experience, but somewhat hard to replicate in your cinema room...

Both Sony and Panasonic merely chose to go larger with their OLED ranges. There's clearly been an avalanche of 77in OLED panels from supplier LG Display, as this size is now being offered for Sony's A1 series (priced at £20,000) and Panasonic's EZ1002 (£1750), relegating previous 65in flagships to step-down status.

In the case of Sony, however, the 77A1 won't be its largest flatscreen. Space was made within its booth for the 100in iteration of its ZD9 LED model, still part of the Sony stable a year after its launch.

Right: A 100in ZD9 took centre-stage in the Sony booth

Below: Goodbye curve? Samsung's Q8 series now offers flat variants



Panasonic has added a 77in model to its EZ1002 OLED line



Music-minded: IFA saw the launch of LG's MQA-compatible V30 smartphone



Epson bets big on short-throw home cinema

The appeal of ultra-short-throw projectors is obvious – installation without resort to ceiling or wall-brackets, no trailing wires – but previous entrants in this category have occasionally been cheap and not very cheerful, or frighteningly expensive. Epson's new EH-LS100 could be a game changer.

Demo'd at IFA in conjunction with an Elite Screens projector screen, Denon AVR and SVS subwoofer, the PJ offered a glimpse at a mid-priced cinema/living room setup oozing convenience.

Epson's first ultra-short-throw design, the EH-LS100 is a laser-assisted beamer that does away with HDR support and 4K playback (even of the pixel-shifting variety of Epson's more traditional models), but keeps its price tag down to an appealing £2,600.

The dual-laser light source is rated to last around 20,000 hours with the projector run in Eco mode. Brightness is claimed to extend to 4,000 Lumens, and image size from 70in-130in, with a throw distance as short as 6cm. Hooking up source gear is aided via a trio of HDMI inputs, while an optional adapter adds Wi-Fi connectivity for use with the iProjection control app.

Styling is perhaps a little reminiscent of one of Epson's printers, but its dimensions will be manageable. Animation demo footage showcased colour punch and image stability, although we couldn't help thinking a few nudges on the brightness setting would have been useful to combat the ambient light in Epson's booth.

For those not shopping for either a short-throw model or above the £1,000 mark, Epson also announced a 12-strong range of affordable lamp-based projectors, five targeted at home cinema enthusiasts and seven multi-purpose models. Of the former, the EH-TW5650 (£900) is the best-specified, offering a 60,000:1 claimed contrast ratio, 2,500 Lumens, vertical lens shift, 1.6x zoom and integrated Wi-Fi.

Epson's laser-based EH-LS100 PJ in action



Bang & Olufsen hit IFA with a premium OLED and active speakers to show off

Epson announced 12 new models in the sub-£1,000 category



B&O starts OLED show

Bang & Olufsen's BeoVision Eclipse, the brand's OLED debut, seems set to elevate the technology to a whole new level of luxury.

We're used now to OLEDs looking gorgeous, but the Eclipse goes an extra mile. Its 55in and 65in options both feature a huge integrated soundbar that runs directly below and stands proud of the slinky screen, yet a sliver of black glass below the soundbar cunningly creates the illusion that the screen is running right through it.

In another classic B&O touch, the whole TV/speaker combi can be mounted on a motorised pole-style floorstand that lets you rotate it or move it forwards and backwards via the Eclipse's metallic remote control. It can also be mounted onto a gloriously high-tech wall bracket that lets you pull and turn the huge TV around as if it was nearly weightless.

Retail pricing will be around £8,300 for the 55in model and £11,600 for its bigger brother.

The Eclipse isn't just a pretty face. The OLED screen is essentially one of LG's C7 TVs – right down to its image processing and WebOS smart system. This is a sensible move, given the C7's impressive picture quality.

B&O has joined LG in coughing up the license fee for the Dolby Vision HDR system. The Eclipse also offers HLG compatibility.

The soundbar is even more powerful than it looks, claiming a hefty 450W of power across three channels and sounding bass-rich and fulsome. It also carries a built-in surround sound decoder so you can add other active speakers to create a 5.1 array. For a cost-no-object setup, you might consider the brand's £23,000 BeoLab 50s, which joined the Eclipse in B&O's booth, one model stripped down to give a sneak peek at its seven-strong driver array.



VPL-VW260ES

- NEW entry level native 4K projector
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- Available in black or white
- HDR compatibility
- 6,000 hour lamp life
- Now available in the UK



The VPL-VW360ES claims a dynamic 200,000:1 contrast ratio

Sony, JVC revamp PJ lines

Sony unveiled a trio of new 4K home cinema projectors at IFA 2017, including a new flagship model with a laser-light source. The range-topping VPL-VW760ES comes with a formidable price tag of €15,000, but that's half the price of its principal rival, JVC's DLA-Z1, and a good deal cheaper than Sony's first laser-powered home theatre projector, the £50,000 VPL-VW5000ES. So consider it a bargain.

Rated at 2,000 Lumens, image quality in a blacked-out room looked superb. All the brand's UHD projectors utilise 4K SXRD panels offering 4,096 x 2,160 resolution.

Rather more affordable are the VPL-VW360ES (£7,000) and VPL-VW260ES (£5,200). The former claims 1,500 Lumens of brightness and has Advanced Iris tech for a dynamic contrast boost. The VPL-VW260ES drops the dynamic iris but maintains the light output. Both are available in black or white cabinets, and offer a 2.06x zoom with wide lens shift to ease installation.

Naturally, the new fleet support HDR10 and HLG HDR, but Thomas Issa, Product Manager at Sony Professional Europe, didn't rule out a firmware upgrade to Dolby Vision when asked. He said the models have the silicon to support a DV upgrade, although he cautioned that there was no confirmed plans for one.

As for JVC, the wait continues for a native 4K beamer priced below the £35,000 ticket of the DLA-Z1. Instead, the projection specialist used IFA to launch a trio of new eShift models, and a special edition model (in a red chassis) to celebrate twenty years of its D-ILA technology.

The incoming DLA-X9900, DLA-X7900, and DLA-X5900 are all HDR-compatible, and boast eShift5 pixel-shifting technology, with a new algorithm designed to craft the best performance from native 4K, as well as Full HD, sources. HDMI specification extends to 18Gbps 4K/60 4:4:4, and the PJs can be used with an external sensor for automatic calibration.

The limited edition DLA-20LTD, meanwhile, is assembled from hand-selected components and offers an improved claimed contrast over the X9900.



When you fire up JVC's limited edition DLA-20LTD, a 20th Anniversary logo is displayed on your PJ screen...

Philips goes dotty

Philips had more to shout about than most at this year's show. As well as giving its second OLED TV, the EISA Award-winning 9002, a full public showing (and adding a 65in iteration to the 55in debut), the brand took the wraps off its first LCD TV to use Quantum Dot technology.

The adoption of QD should let its new 55in and 65in 8602 models produce more peak brightness (Philips claims 1,100 nits), a wider colour range (98% of the DCI-P3 colour spectrum, apparently) and more contrast than its previous LED designs – especially since the QDs are being driven by Philips' latest, ultra-powerful P5 picture engine. The stated aim is 'a superb immersive performance previously unavailable in a 8000 series product.'

The home for Philips' QD debut combines a beautifully finished aluminium frame with the company's traditional Ambilight technology.

Philips has tucked a full-width soundbar under the screen encased in – ooh – European Kvadrat cloth. Smart features, meanwhile, are provided by Android TV.

Viewing a prototype 65in 8602 on Philips' booth, it was hard not to notice how much more washed-out dark sequences appeared compared to Philips' 9002 OLED TV. This is only to be expected, though, and, crucially, it was also easy to appreciate the extreme intensity of its colours, sharpness and brightness. Audio seemed a substantial cut above the TV norm, too.

There's no word yet on pricing or availability, so potential buyers will have to wait patiently...

The 8602 slips a soundbar beneath its feet, and uses QD tech to improve colour and contrast performance



Pioneer wants multiroom for all

No one goes to IFA expecting to see a wide range of new AV receivers (most manufacturers have year-round launch dates), but at least Pioneer offered something to please multichannel fans.

The new starting point to the company's SC-branded models, the SC-LX502 is a seven-channel receiver with Class D Direct Energy HD amplifiers, Atmos/DTS:X decoding and MCACC auto-calibration. 4K/HDR passthrough via its 7-in, 2-out HDMI connectivity includes Dolby Vision and HLG, and even DSD 11.2MHz is on the hi-res menu.

Perhaps most intriguingly, the AVR carries DTS Play-Fi support, illustrating Pioneer's approach to the burgeoning multiroom market. Where other brands (Denon, Yamaha) are tying their AVRs to their own multiroom eco-systems (HEOS and MusicCast respectively), DTS Play-Fi means the SC-LX502 can play music streaming ball with any connected Play-Fi speaker, with operation through Pioneer's Music Control App. DTS Play-Fi also enables control through Apple Watch and Android Wear devices, if that's your thing. There's Chromecast, AirPlay, Bluetooth, network and Fire Connect streaming too.



The SC-LX502 is loaded with streaming options

Sharp fires starting gun in 8K race

If you were in any doubt that 8K is just around the corner, Sharp (in partnership with Slovakian TV manufacturer UMC) says it will begin to roll out mega-UHD TVs later this year, with the first shipping into China as early as October. The company hinted that we might even see 8K TVs in Europe by March 2018, although you might well wonder why.

Likely to lead the way is the LV-70X500E, a 70in monitor. To get native 8K into the set, the screen uses

an input board comprising four ganged HDMI's. Not that anyone expects much content to become available able to make use of its 7,680 x 4,320 pixels. Helpfully, there will also be standard HDMI inputs onboard, with upscaling for everyday 4K and 2K sources.

Sharp also showed a number of dramatic concepts, including a 60in HD-resolution rolled screen and a number of Free Form displays, which can be cut into any shape for a variety of uses ■



Hisense also demo'd 8K, in the shape of a 65in ULED model

Sharp aims to have its LV-70X500E 8K TV at European retailers next Spring

Bits and bobs

The best of the rest from the IFA technology show

Sony's tower of power



Sony's High Power speaker line (think retro-tinged party-centric boomboxes with LED lightshows) has a new flagship.

Known as the 'Muteki' MHC-V90DW (Muteki being Japanese for 'massive design', we're told), it stands 170cm tall, packs 10 drivers, and offers everything from Bluetooth/DLNA streaming to DVD/CD playback and HDMI connectivity. It'll cost you £1,200 to get the party started.

Bar with a boost



JBL has joined the soundbar/5.1 mashup market with its £600 JBL BAR 5.1, which features twin battery-powered enclosures that can detach from the main LCR soundbar and be used as surround speakers. An external sub is bundled, and connectivity includes 4K-capable HDMI.

Yamaha talks Alexa

In advance of the expected October firmware update, Yamaha was heavily promoting the Alexa skill of its entire AV receiver line and other MusicCast products. Once added, the feature will allow voice control of MusicCast functionality (including multiroom setups) via Amazon Echo, Echo Dot, Tap and Fire TV devices.





HI-RES AUDIO in search of better music

Even if it didn't factor into your buying decision, your AVR or BD deck likely supports playback of hi-res digital music files. **Andrew Everard** suggests the time has come to make use of this functionality

LIFE WAS SIMPLE once – at least in the minds of audiophiles: AV receivers were rather good at doing that surround thing the crashbang movie fans enjoyed, but were frankly woeful when it came to playing the purity of music. All that extra circuitry to process soundtracks, all those extra amplifier channels – couldn't possibly be good for ultimate two-channel sound quality, could it? Much better to spend the same money on a dedicated amplifier with not much more than a volume control, they said, if the very best rendition of your favourite symphony or that smoky jazz trio was all that mattered.

But things have changed. When it comes to the wonderful world of high-resolution music, not only has AV equipment caught up with the stripped-down two-channel stuff, it's practically overtaken it. These days your Blu-ray player, AV receiver or even soundbar will not just play CD-quality music, but also handle and stream file formats way beyond the 44.1kHz/16-bit CD standard. 192kHz/24-bit capability is just about ubiquitous, and DSD64, 128 or even 256 is possible.

But hang on a minute: 192kHz what? DSD why? All these new formats and resolutions may be plastered all over the spec sheets of the latest kit, but what are they all about? And, more to the point, is there any need for them?

Here, dear reader, we enter the territory of a heated debate, discussed by hi-fi fanatics with all

the fervour of battles about PS4 vs Xbox One, OLED vs LCD and DTS:X vs Dolby Atmos.

The tale of the tape...

In the blue corner are those who will tell you that the CD format is more than sufficient for the needs of human hearing, allowing a frequency response extending beyond the capabilities of even a young person's ears (let alone that of a middle-aged audiophile) and more dynamic range – from softest to loudest – than we can handle. The only beneficiaries of these hi-res formats, they argue, are likely to be your pets and perhaps babies, who may be troubled by all this high-frequency stuff. Think apparently ultrasonic dog-whistles, and you get the idea.

In the red corner, the belief is that CD was a format of its time – which after all was more than 30 years ago – and was designed to be just good enough given the then-existing technology, and the need to get an entire symphony on a single 640MB 12cm disc. So CD was hobbled from the start by what could be done at the time, and although recording and mastering technology has enabled the sound quality to be optimised over the years, the basics are the limiting factor.

Getting the best sound has always been about capturing and delivering maximum information to the listener, and almost every development in audio has targeted getting the end-user closer to what was

recorded in the studio. Well, putting aside the data-reduced nastiness of MP3, that is – and putting it aside is just what you should do if you are at all interested in decent sound quality.

So what these higher-resolution audio formats do is increase the amount of data used to describe a moment in sound, in the expectation that using much more information will allow that moment to be recorded and played back more precisely. Play music in CD quality and you'll find it takes just over 1,400kB of information per second; up the ante to 192kHz/24-bit and that number rises to a little over 9,200kB per second. So just over 6.5x the data for each second of music.

Move up to DSD – the format originally behind SACD, which was supposed to replace the CD, but didn't – and the data rate rises again: now each second of music is described by almost 3m samples for SACD-quality DSD64, and that number doubles for DSD128 with its 5.6MHz sampling rate, and again for DSD256, at 11.2MHz. And yes, there are even some DSD512 files out there – only a few, but they can be found.

The main difference between DSD and 'normal' hi-res perhaps requires explanation. Essentially, DSD has a word-length of just one, but samples really, really fast, whereas PCM-based files – as CDs are, for example – sample at a lower rate, but each sample has more values available to store the sound. So CD uses 44,100 samples per second, but each sample has 16 values to play with – hence 44.1kHz/16-bit – whereas 192kHz/24-bit grabs 192,000 'snapshots' per second, each with a range of 24 possible values. DSD takes 2,822,400 samples every second, but each one is a simple 1 or 0: 1 if the sound is getting louder, 0 if it's getting softer. Okay, so I simplify, but you get the drift.

Precision playback

So hi-res audio is all about the precision with which the music is recorded, stored and played back, but there are some caveats, leaving aside the naysayers' usual, 'Yes, but you can't actually hear the difference, because even very good human ears can't get to the 20kHz upper frequency possible on CD, which is therefore more than good enough.'

The principal reservation is to do with how those ultra-hi-res music files are generated: for example, even if the music is recorded in DSD64, it's not possible to edit in DSD so – apart from some audiophile 'one-take' recordings – the chances are the DSD files you can download have been taken out of DSD, edited, and then output as DSD again. The usual format for this is DXD, which is 352.8kHz/24-bit, and thus capable of almost 17m samples per second: more than enough to handle the output of DSD, if not quite as pure as the DSD crowd would like it to be.

The other significant question you have to ask about hi-res audio files is where they've come from: hi-res music attracts a premium price over CD-quality files, so it's not unknown for some 'hi-res' files to be little more than upsamples of the CD-quality files, passed off as high resolution. The trick is pretty easy to spot with a simple program such as Music



Scope (from www.xivero.com), as the sound will display the 'brick wall' filter used in CD recording and mastering, which lops off any audio content much above 20kHz; a 'proper' hi-res recording will have audio content going up to much higher frequencies.

This is something our sister title *Hi-Fi News* checks on all 'hi-res' recordings coming its way for review, and it's uncovered quite a few of these rogue recordings, not to mention the odd album where most of the tracks are hi-res, but one or two are upsamples. Fortunately such recordings are becoming less common, as the problem is more widely known, but when it does happen it's not always the fault of the site selling the music: it's not unknown for record companies to supply iffy files, probably more often through error than any attempt to deceive.

So where do you get these hi-res files, and what can you do with them? Well, there are several sites specialising in high-resolution music – see p29 for more details – but you should be prepared for a couple of things if all you've ever done is download from iTunes (which, by the way, won't play hi-res music): one is that hi-res albums tend to be more expensive than their CD or data-reduced equivalents, and the other is that the files tend to be a bit on the big side. Buy your fave album in lossless CD-quality FLAC, and you may be looking at a download of 300MB or so; do the same thing with one of the few albums out there in DSD256, and you could be in for 10GB or more.

The alternative to buying is, of course, to stream. A few sites offer beyond CD-quality material, such as Qobuz with its Sublime+ service, allowing hi-res streaming of albums you've already bought and downloaded, or Tidal with its Masters selection for subscribers to >

Bluesound's Vault 2 can rip CDs to its HDD in FLAC format, and store/stream hi-res downloads

Hi-res capable portable digital audio players (DAPs) are a growing market





Home cinema AVRs, like Sony's STR-DN1080, now double as hi-res music players...

its Hi-Fi service, and powered by MQA technology, which packs the files for faster transmission. However, to date most of these services are mainly aimed at those wanting to play music using a computer connected to an audio system – although that's fine, given that some AV receivers and Blu-ray players have a USB-Type B input for computer hook-up, allowing music to be played from computer through your AV setup.

Most hi-res music is still based around the download/store/play model, however, and a wide range of AV receivers, Blu-ray players and other gizmos can play music over a home network, stored on either a computer or a dedicated NAS (Network Attached Storage) device. The supplying device will need to run UPnP (Universal Plug'nPlay) and/or DLNA (Digital Living Network Alliance) software to make the music visible to the playing device, and allow searching of your library and so on. Most NAS devices come with such software pre-loaded, but experience suggests it's worth considering third-

party software such as Asset UPnP Premium (around £24 from www.dbpoweramp.com) or the excellent MinimServer, which is free from www.minimserver.com, although you might want to make a donation to support the excellent service and support provided by its developer.

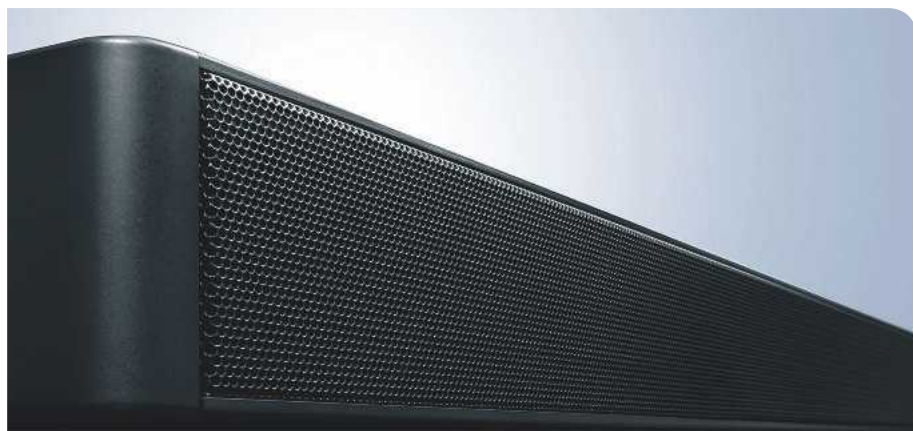
One point worth noting is that, while such software will make it possible to play music through any suitable device connected to your home network, including your AV system and wireless multiroom speakers, you might be pushing your luck a bit if you try to do so over Wi-Fi, especially if there are lots of other devices using it. At best, and under optimal conditions, Wi-Fi should be able to handle 96kHz/24-bit, but anything beyond that may cause pauses or breakdowns as the playing hardware tries to buffer the incoming data.

Thankfully, there is a simpler solution: most AV receivers and Blu-ray players offering hi-res playback can also accept music files on USB storage – either thumb-drives or USB hard drives – and play those. So downloaded music can just be loaded onto a local hard-drive attached to your AV receiver, and played that way.

Not simple enough? Physical discs can still do the job, be they SACDs, DVD-Audio platters, or audio-only Blu-rays. New releases across these three formats are fairly rare, though; Universal Music began a range of the latter in 2014 (dubbed High-Fidelity Pure Audio) with much fanfare, although the catalogue has stalled somewhat.

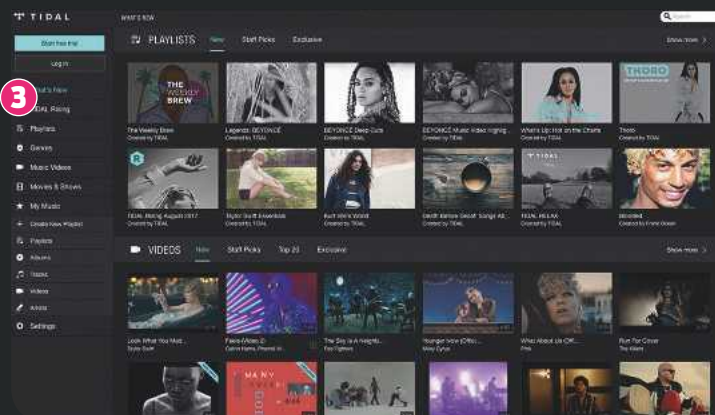
Whichever way you choose to play hi-res music, it's worth a try – even if you just download some of the free sample files that are available from online purveyors. You may discover a whole new side to your home cinema system, beyond the usual cut and thrust of blockbuster movies... ■

... as do many soundbars. Yamaha's YSP-2700 (below) caters for 192kHz/24-bit files via DLNA streaming



Search, download and press play...

As yet, neither of the best-known music download/streaming services – Apple's iTunes and Spotify – support hi-res material, but there are plenty of alternatives...



HDTracks (1)

Perhaps the best-known hi-res service, and certainly one of the longest-established. HDTracks provides both classic and new albums in resolutions up to 192kHz/24-bit, and has an extensive catalogue. www.hdtracks.co.uk

Onkyo Music

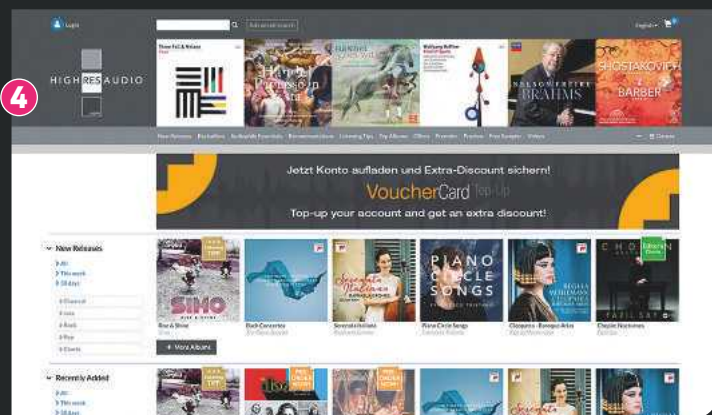
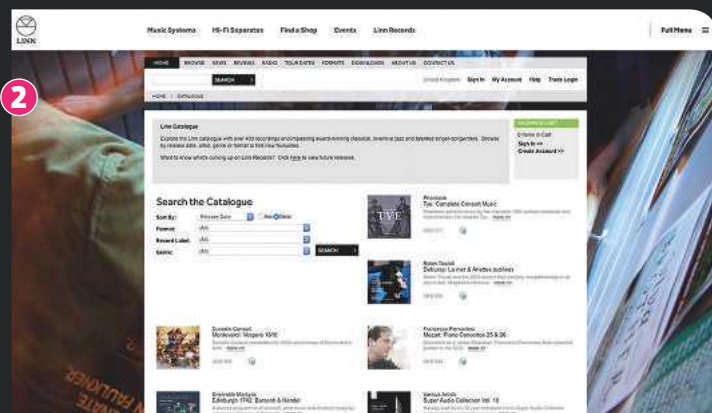
Supports the company's range of hi-res-capable AV receivers with a catalogue that's not as extensive as HDTracks', but still worth a browse. Notable for featuring Iron Maiden's entire back-catalogue, as part of an Onkyo tie-in with the Brit band. www.onkyomusic.com

Technics Tracks

Launched to support the Japanese company's return to the hi-fi market a couple of years back, with a similar selection to Onkyo Music. tracks.technics.com

Linn Records (2)

Offshoot from the audio hardware corp offering its own recordings – mainly classical and jazz in Studio Masters quality, usually at 192kHz/24-bit. www.linnrecords.com



Naim Records

Another with a small catalogue of its own recordings in a variety of formats, up to 192kHz/24-bit. www.naimrecords.com

Qobuz

A French-owned site with a huge library and particular strengths in classical, jazz and – well – French music. You can buy and download tracks, and also stream, depending on the plan you sign up for. The flagship Sublime+ subscription gives you unlimited streaming at up to 192kHz/24-bit, and discounts on hi-res downloads – but then it does cost £350 a year... www.qobuz.com

Tidal (3)

Offers users of its Hi-Fi service access to hi-res files in its growing Tidal Masters collection, which uses MQA technology to stream large files without requiring huge bandwidth. It's £19.99 a month, or £16.99/m if you prepay six months in advance. www.tidal.com

Bleep

A good site if you want to explore the wilder reaches of new (mainly electronic) music. www.bleep.com

2L

A specialist Norwegian label run by recording engineers, and specialising in its own beautifully-made recordings, mainly classical. Files are available in resolutions up to 192kHz/24-bit, in both stereo and surround formats, and as DSD stereo and surround. Free sample tracks are available if you want a taste of what hi-res can do: click the 'HiRes Test Bench' button on the home page. www.2l.no

High Res Audio (4)

German-based website, with music at up to 192kHz/24-bit, and in DSD and as MQA-encoded files. www.highresaudio.com

NativeDSD

As the name suggests, this specialises in all things DSD, with both stereo and multichannel offerings, and package deals of stereo/multichannel. Whichever resolution you choose allows you to download lower-res files for free, the site has a useful database of which hardware will play what files, and there are sampler files available in return for registration. www.nativedsd.com

Studios still make 3D movies, we still watch them, yet TV manufacturers have given up the ghost(ing). What happens next? asks **Mark Craven**



3D

NOT YET READY FOR JUDGMENT DAY

Several shots from *Terminator 2* seem tailor-made for conversion into 3D

IF YOU NEEDED yet more proof of the demise of 3D TV (and you really shouldn't), IFA 2017 said it loud and clear. 3D just isn't on the radar of TV manufacturers anymore; their focus has turned sharply towards 4K, 8K and HDR technologies. Even glasses-free 3D screens – often spotted in unreleased prototype form at previous electronics fairs – were absent.

Last month, however, film fans could head off to the local cinema to catch not only *Kingsman: The Golden Circle* in 3D, but *Terminator 2: Judgment Day*, retooled by director James Cameron for a celebratory theatrical run with added stereoscopy. Cameron has form in this arena, having done the

same with *Titanic* in 2012, and arguably kickstarting the current trend for 3D cinema with *Avatar* in 2009. Recently, the director has raised the possibility of also re-releasing *Aliens* in 3D (and confirmed, finally, that BDs of *The Abyss* and *True Lies* are 'coming').

The pace of 3D cinema releases has slowed a little since the original post-*Avatar* boom, but not by much. 2017 has already seen *xXx: Return of Xander Cage*, *Resident Evil: The Final Chapter*, *The LEGO Batman Movie*, *Kong: Skull Island*, *Beauty and The Beast*, *Ghost in the Shell*, *King Arthur: Legend of the Sword*, *Guardians of the Galaxy Vol. 2*, *Pirates of the Caribbean: Salazar's Revenge*, *Wonder Woman*, *The Mummy*, *War for the Planet of the Apes*, *Cars 3*,

Valerian... and more ushered onto the bigscreen for funny-spex viewing, while *Star Wars: The Last Jedi* arrives this Christmas. Many of these are native 2D productions, converted to 3D in post. But the process is still being undertaken to meet audience demand, not just in the US, but in the expanding Chinese and Asian markets, too.

Where commercial cinemas are concerned, 3D as a display technology is well-established. The requisite projector hardware and compatible screens are in place, so there's little impetus to scrap the concept entirely – even if, on a domestic level, it's on the wane.

3D home cinema

If you purchased a TV between 2010 and 2016, it's very likely to be 3D-capable, either using active shutter or passive technology. But the new model you took delivery of last month, or the one you're waiting to order, probably won't be. Nor might your Blu-ray player, come to that – Samsung's M9000 Ultra HD deck, released this year, offers no 3D playback functionality.

Manufacturers left the 3D game in a trickle. Samsung and Philips departed in 2016, followed this year by LG and Sony. Meanwhile, Panasonic has just one model in its 2017 range (the EX750) offering 3D playback. Sky closed its 3D channel in 2015 after a five-year run, although retains some on-demand content. Netflix and Amazon don't offer any 3D programming.

This leaves Blu-ray as the vital link between the strong 3D cinema industry and home replay, and it's hanging on, albeit with a few bumps in the road. 3D discs can still sell well, depending on the content – for instance, in the US, the 3D version of *Rogue One: A Star Wars Story*, which was exclusive to certain retailers, sold out. The growth of 4K Blu-ray does now mean 3D fans sometimes have to double-dip purchases to be sure of a 3D version, and there's no exact mirror image between theatrical output and Blu-ray release, but it's not difficult to add to your 3D library regularly.

How, then, to watch these discs? The answer is simple: projectors. While TVs are bereft of 3D support, compatibility on home cinema projectors remains generally strong. There's plenty of choice for 3D PJ enthusiasts, ranging from the large-theatre 4K beasts of JVC and Sony, through more affordable Full HD models, and down to even portable projectors (such as Optoma's ML330 reviewed on p64). With 3D Blu-ray decks and pull-up/pull-down screens selling for less than the cost of a mid-range smartphone, establishing a bigscreen 3D setup isn't a high-ticket endeavour.

Not only is this good news for AV fans, it makes sense. The larger screen size afforded by projection plays to 3D's strengths, while the typical lights-dimmed viewing environment reduces the chance of intrusive flicker from additional light sources.



One of a handful of digital 'fixes' made to *T2* 3D helps Robert Patrick maintain his modesty during an iconic scene

So many of the complaints aimed at 3D TV performance are eradicated when switching to projection, because it's much closer to a facsimile of the commercial experience that audiences enjoy.

What does the future hold?

It's hard to know if the 3D landscape will remain this way in the coming years – TVs dead, projectors alive, passive tech ruling at the multiplex and studios continuing disc support. Format fans have had their fingers burned to the point that they might not dare cross them.

But it's likely any change will come, as last time, via the commercial cinema industry. This year's CineEurope expo showcased developments in modular video wall technology, essentially removing the projector from the equation entirely and replacing the traditional screen with a super-size, ultra-resolution LED display. Such a development might pave the way for authentic, immersive, glasses-free 3D experiences – long thought to be the next step in stereoscopy's evolution. At the same time, James Cameron (him again) is still working towards a glasses-free 3D projector solution, telling the SMPTE last year: 'Ultimately I think it can happen – with no glasses. We'll get there.'

Cameron also has unfinished *Avatar* business to attend to, and is currently in pre-production on four sequels. It's a given that 3D will be an integral part of his return to Pandora, perhaps in addition to high frame-rates. Whether or not he will have conceived his glasses-free 3D breakthrough by the time *Avatar 5* bows in 2025 remains to be seen.

The whole story of 3D is therefore still to be written. While tech-cynics were quick out of the block to herald its demise, it continues to excite theatre-goers and die-hard home cinema enthusiasts. 3D TVs may never need to say 'I'll be back', but – as John Connor says in *T2* – 'The future's not set...' ■

T2 in 3D – & Ultra HD...

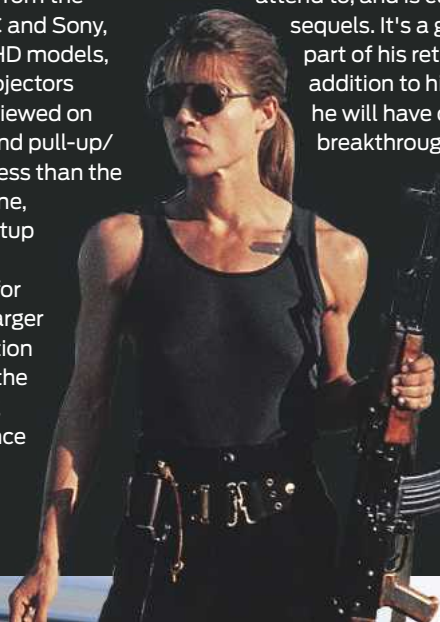
He's back on Blu-ray



Terminator 2: Judgment Day 3D arrives on Blu-ray via Studiocanal on October 30. As a boost for

fans, the two-disc release (there's a separate Full HD platter) features two new extras – the trailer for the 3D re-release, and a *T2: Reprogramming The Terminator* documentary with input from Arnold Schwarzenegger, James Cameron and more.

Also launching is a *Terminator 2* Ultra HD Blu-ray (with the same extras), plus an 'Endo Arm Special Edition' release that includes 4K, 3D and 2D versions – although at the time of press this was sold out through pre-orders!





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MUMMY ISSUES

Tom Cruise leads Universal's monster reboot on Blu, p94

A

Head downstairs to check out this 5.1.2 Atmos setup where basement space has been put to good use



FINDING THE SPACE for a dedicated cinema room often means looking upstairs to a loft or outside to an underused garage, but the owners of this six-seat setup were able to head below ground, turning a basement into a movie-watchers' paradise. Leeds-based professional company (and CEDIA Award winner) Bespoke Home Cinemas was given the job, handling the entire conversion from initial design through to construction and calibration.

The finished cinema dimensions are a relatively compact 3.1m x 4.6m, with portions of the original basement hived off for an entrance-way and kit room. The space has been cleverly used, with a raised row of four Signature seats filling out the entire back wall, and a 2.37:1-ratio fixed-frame projector screen doing the same at the opposite end.

Gimme a pencil

The install team kicked off the project with concept sketches, followed by 3D CAD drawings. Planning for the eventual 5.1.2 Atmos speaker system was incorporated at this stage – room acoustic mapping calculations carried out to ensure the chosen speakers (from Artcoustic) and amplification/processing (from Arcam) would deliver a 75dB reference level at the main seating positions.

Naturally, the basement space required some prepwork to turn it into an all-singing, all-dancing AV den. Stud walls were fitted throughout, their frames filled with acoustic rockwool and covered with 15mm acoustic DB boards – this aids sound

A. Three-metre image

This vision-filling CinemaScope projector screen, from Display Technologies, measures 3m wide and uses an acoustically transparent material, allowing the room's front speakers to be hidden behind

B. Beam me up

Rather than hiding an original exposed beam, it was joined by a custom-made doppelganger, giving the room design symmetry and providing space for LED uplighters

C. Fist of fury

Labelled 'very impressive' by Bespoke's install team, Artcoustic's compact Impact2 subwoofer uses two downfiring 10in drivers, and a sealed cabinet, to reach a claimed 15Hz LF response – power comes from a racked amp

KIT CHECKLIST

EPSON: EH-TW9300 projector

FUTURE AUTOMATION: PM1 micrometre bracket

DISPLAY TECHNOLOGIES: 2.37:1 ratio acoustically transparent projector screen

ARCAM: AVR550 AV receiver (configured to Dolby Atmos 5.1.2)

ARTCOUSTIC: 3 x Spitfire SL4-2s (L/C/R); 2 x SL Targets (surrounds); 2 x SL Architect 2.1s (height); Impact2 (dual 10in subwoofer); 750W subwoofer power amplifier

CONTROL4: Home automation processor; SR260 system remote; configurable light switch

MICROSOFT: Xbox One S

SKY: Sky Q

SIGNATURE: 6 x modular cinema seats

isolation from the rest of the house. A feature of the existing ceiling – an off-centre exposed beam – was incorporated into the final look by adding a second 'faux' beam to create a symmetrical design. Both beams were then used to house lighting, including LED uplighters and spotlights.

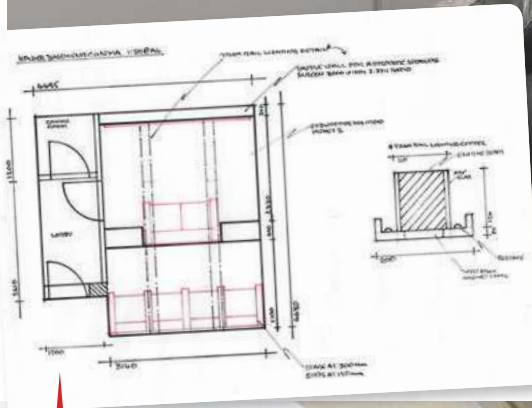
The speaker array features a trio of Artcoustic's SL4-2 six-driver monitors for the LCR soundstage, mounted behind the acoustically transparent screen; two on-wall SL Targets for the surround channels; and two Architect 2.1 in-ceiling models. LFE comes from a small but potent Impact2 passive subwoofer, powered by a racked 750W power amp in the adjacent bootroom. The Dirac EQ feature of the Arcam AVR550 allowed for precision calibration with a PC and XTZ Room Analyser II PRO mic.

4K ready

Sky Q and Xbox One S source hardware means 4K and HDR content, plus streaming services, are on offer to the ceiling-mounted Epson EH-TW9300 projector. The PJ's HDMI cable run to the Arcam AVR is handled via a Pixelgen PXLDrive active HDMI kit, certified by THX to maintain 4K 4:4:4 at 18Gbps, while the Epson's lens memory feature is used to enable simplified aspect ratio switching to 16:9 for TV and console gaming.

For smart control of the AV system, Bespoke opted for a Control4 processor, remote and light switch. Even the latter can be used to fire up the hardware and call in a calibrated lighting scene. Just press the 'Movie' button...

While the kit list is undoubtedly impressive, we think this cinema's instant appeal also comes from its design. The black-and-grey colour scheme, iconic poster art, symmetrical layout and subtle lighting effects combine to create a sleek, relaxing space, designed to accommodate the whole family in comfort. Got a cellar half-filled with junk? Maybe this will inspire you... ■





D. Licence to thrill

Film poster art, including James Bond and Princess Leia, lets you know this room's *raison d'être*

E. Drawing room

Concept sketches and CAD modelling were undertaken to make sure the project fitted the owner's demands, before the conversion work commenced

F. Cinema six-pack

Seating comes from specialist brand Signature, with comfort (and cup-holders) paramount. The rear four are installed on a raised plinth to maintain line of sight

G. Colour co-ordination

Maintaining the room's aesthetic even meant sourcing an anthracite radiator

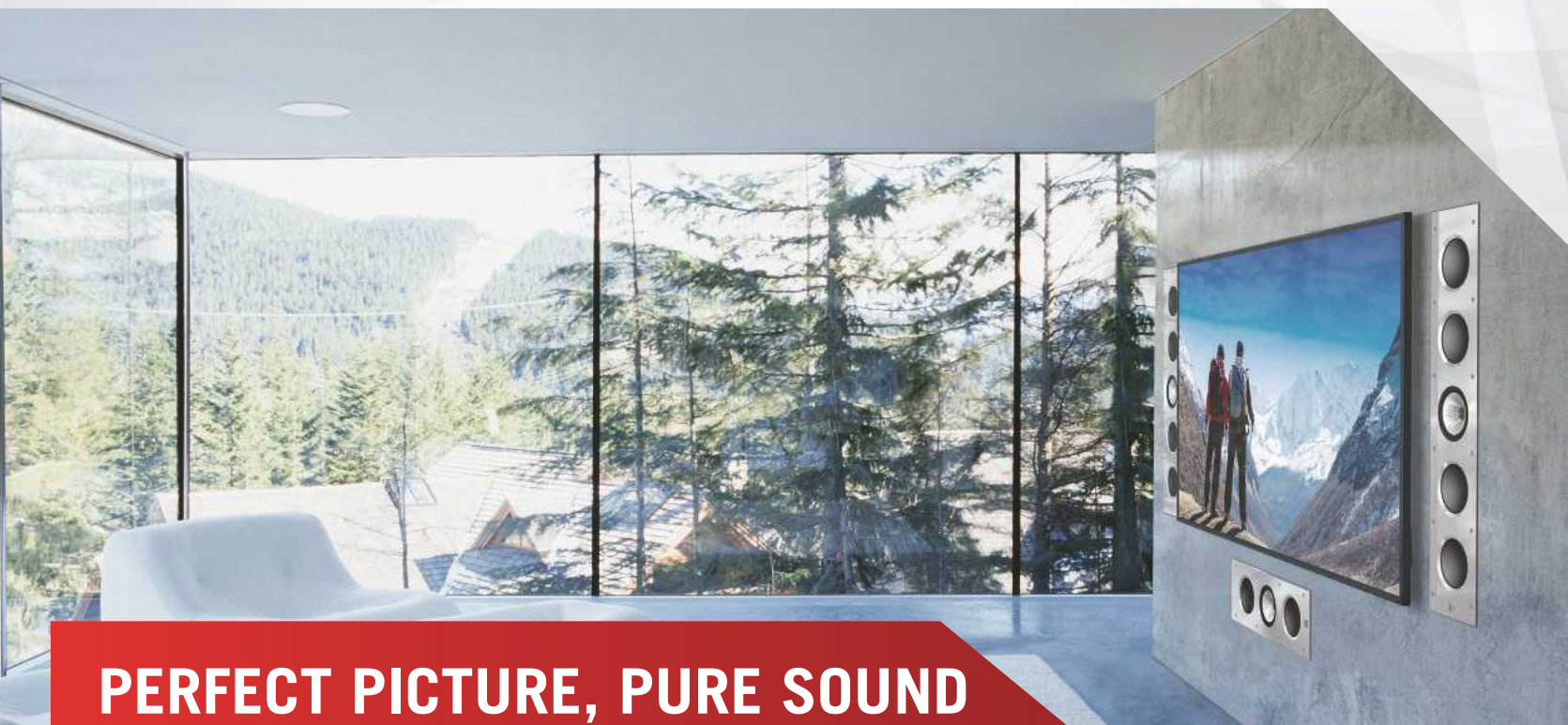
H. Pixel pusher

Epson's EH-TW9300 projector supports HDR10 playback and accepts the native 4K material from the system's Sky Q and Xbox One S sources, output at upscaled 4K

I. Clever clogs

Speaker/room optimisation is delivered via Arcam's Dirac EQ-equipped AVR550





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REVIEWS

→ **HARDWARE** SONY 55in Bravia 4K flatscreen **OPTOMA** UHD65 4K HDR DLP projector, plus mini multimedia PJ **SAMSUNG** Premium soundbar/subwoofer combi **EMOTIVA** Affordable seven-channel power amplifier **HISENSE** Bargain-priced 65in 4K TV **NAIM** Uniti Atom audiophile amp/streamer **ROYOLE MOON** 'Mobile cinema' **ROUNDUP** £300-£400 headphones **AND MORE**

Lean, mean Atmos machine



Marantz's NR1608 is the brand's new generation of slimmed-down AV receiver. How does it differ to its predecessor? Turn to p44 to find out...

HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★☆☆☆
Dire	★☆☆☆☆

All prices quoted are approximate and may have changed

40 OPTOMA UHD65/£3,000

Optoma's 4K Dark Knight



You don't need HDR to bring out the best in this 4K projector, says **Steve May**

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HOME CINEMA CHOICE NOVEMBER 2017

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The 4K home cinema projector scene continues to intrigue. This compact Optoma model, aimed squarely at home theatre fans, will be of considerable interest to buyers who have previously shortlisted Sony's SXR range, JVC's eShift offerings and Epson's 4K Enhancement models. It's the stablemate to Optoma's brighter, cheaper media-room UHD60 4K model, and a direct rival to Acer's UHD DLP beamer, the V7850.

1. For this cinema-focused model, Optoma adopts a black chassis

2. Backlit, but not able to control zoom/focus

Given how ruinously expensive early 4K projectors have been, this affordable HDR offering would seem a tempting proposition. But before you dig out £3,000, there are things to consider.

The Optoma UHD65 sports a stealth-black finish, clearly designed to melt from view in a dark theatre room. It's not a particularly large or heavy model either (less than 8kg), so should be relatively straightforward to ceiling-mount.

Hot air is vented to the front, with all inputs recessed to the rear. Here you'll find two HDMI inputs, but only one of these is 4K/HDCP 2.2 capable. There's also a VGA PC input and 3.5mm audio input, digital audio and analogue stereo outputs, plus a USB input – not for media playback, but to power HDMI dongles like Chromecast or Amazon Fire and Roku TV sticks.

An Ethernet LAN connection turns out to be for control purposes only. Supported protocols include AMX Discovery, Crestron, Extron, Telnet, HTTP and PLink. Additionally, a 12V trigger can be used to sync the projector with an electric projection screen.

There's an integrated 4W sound system, which will do the job if you need a quick, casual hookup for a sports event or gaming session. Obviously, a proper multichannel setup is more appropriate for movie viewing.

Not afraid of the dark

Brightness is rated at 2,200 Lumens – its UHD60 sibling [see HCC #277] offers 3,000 – while contrast claims to be 1,200,000:1. While the PJ can be used in a room with some ambient light, it's absolutely at its best in a light-managed room.

Setup controls are basic but effective. Focus and (1.6x) zoom predictably require manual adjustment, no fancy remote control zoom here. There's generous lens shifting available, but you'll need to pop the top half of the projector lid off to get to the lens shift wheel. As a consequence, there's an unsightly seam which runs the width of the projector.

When it comes to throw, you'll need to budget at least 3.5 metres if you want to cast an image over 70in. The throw ratio is 1.3-2.22:1.

Optoma's remote offers brightly backlit buttons, and gives quick access to inputs and some picture parameters, while the PJ's onscreen display uses a standard text box interface, with tabs for Display, Audio, Setup, Network and Info.

Navigating these is straightforward. Items of interest include a wall colour compensation filter, recognizing that many users will opt to project onto a handy wall rather than a dedicated screen, plus Ultra Detail and Dynamic Black picture modes. The latter boosts

peak luminance, but increases fan noise. The former adds an obvious image processing lift; available in three strengths, it's hard to recommend at any. When disengaged, the projector displays an admirable level of clean UHD detail.

Viewing presets include Cinema, Vivid, Game, Reference, User and Bright. There are also ISFccc Day and Night options for calibrators. The projector auto-senses HDR10, and adjusts accordingly – HDR viewing modes comprise Bright, Standard, Film and Detail. There's also an SDR to HDR option, but this pushes chroma to unwatchable levels and is best avoided.

The UHD65 employs the latest Texas Instruments XPR (eXpanded Pixel Resolution) 0.67in 4.15million DMD device, which uses hyper-fast mirror switching to create a 4K (8million pixel) image. It's coupled to an RGBRGB colour wheel, a key differentiator with the sibling UHD60 projector, which has an RGBYCMW colour wheel. The advantage of RGBRGB is that it can faithfully reproduce the REC.709 colour space, but sucks more brightness from an image (hence the dark-room recommendation).

Optoma's PureEngine provides a secondary point of difference between the UHD65 and its stablemate. This features a cocktail of enhancements to improve contrast, colour vibrancy and motion. However, Pure Motion has zero impact on the project's ability to retain motion clarity. The good news is that, as befits a home theatre model, images have a consistent cinematic feel. A split-screen mode allows for an easy comparison, so you can take it or leave it.

Let's go to war

As with all other native 4K PJs I've auditioned, image clarity is gorgeously high, with splendid fine detail. The sleight of hand behind DLP's 4K image resolution certainly isn't identifiable with UHD content. There's no shortage of pixel detail onscreen. In *Warcraft: The Beginning* (UHD, Sky Q), skin texture, sumptuous fabric and furs are all totally convincing.

This clarity is joined by vibrant hues, with the projector employing BrilliantColor to boost overall brightness. With a 10-bit output from Sky Q, no colour banding was noted, and the opening Paramount splash to *Star Trek Beyond* displayed superb gradation and rich tones. However, this DLP solution doesn't support wide colour as found on UHD Blu-rays, instead downconverting to the REC.709 standard currently used on TV and regular BDs.

While Optoma's UHD65 is compatible with HDR10 sources, it's worth reiterating that there's a world of difference between



AV INFO

PRODUCT:
4K HDR DLP
projector

POSITION:
Tops Optoma's 4K
home theatre
projector range

PEERS:
Acer V7850;
Epson EH-
TW9300W



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flatscreens and projectors when it comes to the portrayal of high dynamic range. Televisions have the ability to throw high brightness at specific areas of the screen, to better realise spectral highlights. Projector lamps aren't anything like as capable. If they were, you'd need to accommodate the kind of projector hardware seen at your local multiplex. Instead, what we get is tone-mapping gymnastics.

While I would argue the UHD65 looks its best with standard dynamic range 4K material, be it from set-top boxes, an Amazon 4K streamer or even upscaled HD Blu-ray, it makes a decent fist of HDR content. It delivers a convincing level of intensity with the torch-lighting in *John Wick: Chapter 2*'s catacomb shootout (Ultra HD Blu-ray), and manages to proffer some effective shadow detail. There is an intrinsic limitation to the projector's black level profundity, though.

While this isn't particularly apparent with TV studio content or sports (such as UHD Formula One via Sky Q), it's obvious that the bars on a letterboxed movie stay uniformly dark grey, regardless of viewing mode, gamma variants or tweaks in brightness and contrast.

Therefore, in that opening sequence to *Star Trek Beyond*, Kirk confronts the mini aliens in a chamber that's never quite as deeply shadowed as it should be.

On a much more positive note, although a single-chip DLP model, I was never particularly aware of the technology's characteristic rainbow fringing artefact during

SPECIFICATIONS

3D: No. **4K:** Yes. 3,840 x 2,160 **HDR:** Yes. HDR10 **CONNECTIONS:** 2 x HDMI inputs; PC VGA input; optical digital audio output; RS232; Ethernet; USB (power); 12V trigger; 3.5mm audio in/out **BRIGHTNESS (CLAIMED):** 2,200 Lumens **CONTRAST (CLAIMED):** 1,200,000:1 **ZOOM:** 1.6x **DIMENSIONS:** 498(w) x 141(h) x 331(d)mm **WEIGHT:** 7.8kg

FEATURES: Single-chip DLP XPR (eXpanded Pixel Resolution) with RGBRGB colour wheel; 2 x 4W built-in audio; 10,000-hour claimed lamp-life in Eco mode; 25dB fan noise in Eco mode; Cinema, Vivid, Game, Reference, User and Bright picture presets; ISFccc Night & Day modes; 1.39:1-2.22:1 throw ratio; PureEngine processing; vertical lens shift (+15%); backlit remote

PARTNER WITH



JOHN WICK: CHAPTER 2:

A superb movie sequel on a superb Ultra HD BD release. The skilful HDR grading makes it a great test disc, and the Dolby Atmos soundmix impresses by virtue of its effects choreography and unadulterated dynamism.

my audition, apart from fleeting appearances on scenes of very high contrast.

Equally importantly, the UHD65 is a quiet enough operator. In Eco lamp mode it purrs along at 25dB, which is relatively easy to mask with the thuds, swells and crackles from your speaker system. And with the PJ run in Eco mode, lamp-life is quoted at 10,000 hours.

Put it on your list

Overall, the UHD65 is a great 4K proposition. Feature set and image clarity are excellent for its class. It's up against stiff competition from the slightly cheaper Acer V7850, which utilises the same core DLP engine, and Optoma's own less expensive UHD60, but the black finish makes it uniquely suited to home theatre use, and its images convince. Definitely one to audition ■

HCC VERDICT



Optoma UHD65

→ £3,000 → www.optoma.co.uk

WE SAY: Fine UHD detail and vibrant colours make this 2160p projector a great choice for 4K home cinemas, even if – as with other 4K DLP models – black levels aren't imperious.

3. On-body controls can be found on the PJ's side-plate

4. Two HDMI inputs, but only one can handle 4K HDR sources

4



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1



Marantz has revamped its NR slimline flagship AVR to impressive effect, reports **Steve May**

Better than before

With Dolby Atmos spreading from BD to mainstream entertainment, interest in immersive 3D audio looks set to explode. Even those who have long resisted the charms of an AV receiver might well find themselves tempted by this next generation of surround.

This is exactly where the core appeal of Marantz's half-height NR range lies. Unlike traditional AVR heavyweights, its NR models are relatively easy to accommodate in the average living room, and come with a raft of convenience features, including Bluetooth streaming and HEOS multiroom functionality.

We've seen HEOS interoperability on Denon AVRs before, but it's novel to find it on Marantz hardware too. And HEOS isn't just about streaming content to and from

connected compatible speakers (although that's obviously a key attraction), it also throws open the door to streaming audio services such as Spotify, Tidal and Deezer, via the free HEOS app.

The NR1608 is the latest flagship iteration for the range, and comes generously equipped. There are eight HDMI inputs, all of which support 4K/60 video with HDCP 2.2. So that means you can stack an Xbox One X alongside a PS4 Pro, 4K Blu-ray player, Amazon 4K box and a Sky Q STB – and still have room for a Nintendo Switch and Google Chromecast dongle. And if you wanted, you could use the AVR to upscale those latter sources to 4K, too.

Marantz says it will issue a firmware update for the receiver which will also enable Dolby Vision and HLG HDR passthrough. This is, at the very least, reassuring. In many ways, newer HDR variants remain an unknown quantity for existing AVR owners and new buyers alike. With a paucity

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of content, real world compatibility issues have yet to be addressed.

Unfortunately, the NR1608 still has only a single HDMI output, which is a frustration for those who want to run a projector alongside their flatscreen, or feed a second zone with video. I remember moaning about this exact same feature shortfall with the previous NR1607 [*HCC* #266] so I'm thrilled that no one at Marantz has listened to me.

There is a stereo output for a second music zone, but this may not see much use considering the AVR's HEOS skills. Other connections include two digital audio inputs (one coaxial, one optical), a handful of legacy inputs (two component sets, three AV inputs), plus Ethernet for those who prefer to hardwire their network.

Dream machine

Build quality and design are top-notch. The characteristic Marantz crescent fascia has a timeless elegance, while a front-facing HDMI and USB port, full-size headphone jack and 3.5mm input for the setup microphone, add detail.

A seven-channel design (there's a five-channel NR1508 also available), this AVR can be configured for 5.1.2 Dolby Atmos/DTS:X, or a traditional 7.1 system, depending on your speaker preference and room design. System setup is

achieved via Audyssey MultEQ, which calibrates the output to the listening room. For this audition I used all six seating position measurements available, and the end result was highly effective. I've sometimes found Audyssey can lose bass slam after calibration, but that wasn't the case here. The receiver could still drop seismically deep post-EQ.

The NR production line has been rolling since 2011, with minor revisions for each subsequent release. We've seen subtle changes to the cosmetic design, and wholesale updates beneath the lid, most obviously with the introduction of Dolby Atmos and DTS:X.

Possibly the most significant hardware change with this year's model is the adoption of a new 32-bit DAC, the AK4458 from Asahi Kasei. Marantz has partnered this DAC with a new selection of audio components, effectively resetting the characteristics of the receiver. But not in a bad way.

The NR1608 remains a roundly entertaining performer. It pans and steers with fluidity, creating a three-dimensional soundstage that has no problem engulfing the listening position. This is clear when Peter and his cohorts engage the pirates amid explosions of colour in *Pan* (Blu-ray, Dolby Atmos); the score bobs around my loudspeakers like a pirate ship on the high seas.

AV INFO

PRODUCT:
Slimline Dolby
Atmos/DTS:X
AV receiver

POSITION:
Step-up model
from the
5.1-channel NR1508

PEERS:
Pioneer VSX-S520;
Yamaha RX-S601

1. Bored with black?
You can get the
NR1608 in silver, too

**2. Backlit and not
overladen with
buttons – we like**



Similarly, live Premier League football (Sky Q 4K, Dolby Atmos) is portrayed with astounding realism.

So what of the differences? This time around there seems more nuance in the mid-range; it's a more impactful, organic sound. The NR1608 favours round edges over sharp angles, which makes it extremely easy to listen to. It's also quicker to anger.

The 2029 opening to *The Terminator* (Blu-ray, uncompressed 5.1 PCM), which features a sci-fi flyover and then rolling heavy armour, before Brad Fiedel's familiar theme punctuates the title sequence, is depicted with gutsy urgency. This receiver may not look brawny on paper (it claims a 7 x 50W into 8 ohm figure, 20Hz-20kHz but with two channels driven), but it has verve and spirit.

Just before Michael Biehn time travels, a cop car races from front left to rear, before electricity crackles back in the opposite direction; a chopper thwups across the rears, the synth score bubbling up to the front. When cops give chase, music pumps like blood in every channel.

There's energy aplenty. When Sarah Connor's big-haired chum has an unfortunate encounter with Arnie, the Terminator's gun retorts are shockingly violent. The subsequent bar shootout is astonishingly intense.

Teenage Mutant Ninja Turtles: Out of The Shadows (Blu-ray, Dolby Atmos) isn't a movie that values sonic subtlety. The cast spend most of the time shouting at each other, and the soundtrack is horribly histrionic. But if you want immersion, dial up the chase scene in Chapter 7 and you get everything ramped to the max – ninja weaponry, honking soundtrack, police sirens, Foley effects, Turtles... and that's just in the main stereo pair. It says much for the precision of the NR1608 that it keeps all this chaos intelligible.

This ability to delineate is particularly effective with two-channel audio. Bjork's *Family* (MQA) is an Icelandic storm of percussion, swirling strings and vocal knots. But the NR1608 doesn't over-complicate proceedings, letting the track play out with intense clarity.

The Doors' *Riders on the Storm* (MQA) manages to filter weather effects from the band, yet never disentangles the magic in the mix. A 24-bit/192kHz remaster of *Hotel California* offers up nuance that makes the recording sound fresher than a dip in the Pacific. The receiver delights in the interweaving guitars of Joe Walsh and Don Felder. Hi-res audio is clearly welcome here.

It's great fun with games, too. *Star Wars Battlefront*, rendered in Dolby Atmos, offers furious sonic action, but again the NR1608 tracks details with ease. TIE fighters

SPECIFICATIONS

DOLBY ATMOS: Yes **DTS:X:** Yes **THX:** No **MULTICHANNEL INPUT:** No **MULTICHANNEL PRE-OUT:** No **MULTICHANNEL OUTPUT (CLAIMED):** 7 x 50W (into 8 ohms) **MULTIROOM:** Yes. Second audio zone **AV INPUTS:** 3 x composite; 2 x digital audio (1 x optical and 1 x coaxial) **HDMI:** Yes. 8 x inputs; 1 x output **COMPONENT VIDEO:** Yes. 2 x inputs; 1 x output **VIDEO UPSCALING:** Yes. To 4K/30 **DIMENSIONS:** 440(w) x 376(d) x 105(h)mm **WEIGHT:** 8.3kg

FEATURES: Audyssey MultiEQ room calibration; ISF video calibration; HEOS multiroom compatible; hi-res file playback includes DSD (2.8/5.6MHz), FLAC, WAV and ALAC; Ethernet; Wi-Fi; Bluetooth; AirPlay; 'net radio; USB input (front-mounted); FM/AM tuner; dual subwoofer outputs; Dolby Vision and HLG passthrough via firmware; HDMI 2.0/ HDCP 2.2 on all HDMI; Pure Direct Mode

PARTNER WITH



HEOS 7HS2: Go multiroom with the Marantz AV receiver and the biggest and best of the HEOS standalone speakers. Priced around £500, it sports five active drivers, two passive bass radiators and an eye-catching elliptical chassis.

swoop overhead, dialogue is locked centre stage, while heavy weapons thud into an Imperial Walker – there's a satisfying 'whump' as it crashes down into the snow. This box may be small, but it can handle big moments.

Let me entertain you

The NR1608 is a confident, entertaining AV receiver. I've lived with most iterations of this particular Marantz family since launch, and have generally noted improvements on every update. This edition maintains the trend.

Although first and foremost a multichannel proposition – and well-specified in this regard – it's also precise enough to make the most of hi-res music sources, and its general usability has never been better. The addition of HEOS multiroom is an extra layer of icing. The NR1608 may make you wonder why your current AVR is so big and ugly ■

HCC VERDICT



Marantz NR1608

→ £600 → www.marantz.co.uk

WE SAY: HEOS multiroom, Bluetooth convenience and 3D audio tick all the right feature boxes, while precise multichannel delivery and musicality make this a cracking all-rounder.

3



3. Seven rear HDMI inputs (plus one on the front) means you should never run out

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Multichannel power amps are expensive, right? Emotiva is changing that with its A-700, says **Ed Selley**

Powering your AV upgrade

In the last few years, the one-box AVR has almost completely replaced the more specialist processor/power amp combination at all but the loftiest price points. The greater convenience of a single chassis and the increase in capability that we've seen at various price levels has squeezed out the double-device concept. In processing terms, there is little to stop a one-box unit matching a dedicated processor, but in the case of dedicated multichannel power amps, there's more debate.

The reason for this is simple enough. With the squeeze being put on manufacturers to give us more features at each price point and more channels of amplification being required for newfangled sound formats, the strain on that amplification becomes more severe. While an AV receiver might specify that it has seven, nine or even eleven channels of, say, 100W amplification, this will drop considerably when all the channels – or even just a few of them – are under load, driving speakers. This is where the Emotiva A-700 comes in.

As a dedicated seven-channel power amplifier, the headline figure of 110W per channel is not significantly – or indeed any – better to that claimed by many AV receivers at £1,000 and up. Where the Emotiva differs is that as well as this figure – which claims a 0.1% THD and is measured with the amp in stereo mode – it also boasts a claimed power output of 80W into 8 ohms with all seven channels in play, again with a low distortion. This is a healthy spec and comfortably in line with that offered by high-ticket AV receivers. And the A-700 costs an inviting £770.

With a demanding set of speakers, there is a good chance that this standalone power amplifier will deliver a better performance than some significantly more expensive integrated AVRs. As such, while there is a matching processor for it (the 4K-capable, seven-channel BasX MC-700), the A-700 potentially makes sense as an upgrade for an existing receiver. You could, for instance, employ it to take over responsibilities for your main surround bed, leaving your AVR to handle any height channels/second zone speakers you might have.

Emotiva, as a brand, is perhaps unfamiliar. The company hails from Tennessee in the US but, unlike some American

marques, has the ambition of creating home cinema audio hardware for the less well-heeled, or 'high performance products at prices that more people could afford and enjoy,' as Emotiva puts it. A new distribution deal with UK specialist Karma AV (which also handles the likes of SVS, JBL Synthesis and GoldenEar) has seen the A-700, and the brand's more premium X Series components, arrive at UK retailers, and onto my test bench.

Pure and simple

The engineering that has gone into the A-700 isn't the last word in radical thinking. Yet, in many ways the results are the better for it. The amplification itself is class A/B rather than Class D, and this means that a significant chunk of the internal volume is given over to a hefty toroidal transformer. This supplies enough power to ensure that four ohm loads are also handled effectively.

The internal layout of the A-700 is logical to a fault. Each channel of amplification is discrete and a large internal heatsink serves to divide the output stages from the power supply. There are two cooling fans inside the A-700 but nothing I've done in the time I've been using it has caused them to be audible, if indeed they have even switched on.

The exterior is prosaic but relatively well assembled. I really like the seven blue indicators that show the status of each amplifier channel, meaning at a glance you can tell if everything is (or isn't) functioning normally. And Emotiva has been quite clever in that it has channelled its design skills and costlier materials into the front panel – which will be your main point of interaction with the amp – and used this to mask that the rest of the A-700, while perfectly respectable for the asking price, is nothing to get too excited about.



AV INFO

PRODUCT:
Seven-channel
dedicated power
amplifier

POSITION:
Above a five-
channel BasX
model, below
an eight-channel
multizone model

PEERS:
NuForce MCA-18

1. The A-700's seven front LEDs denote amp channel status



The rear panel offers plenty of space around connectors and speaker terminals feel solid if not spectacular. Emotiva has fitted the A-700 with a 12V trigger system (and supplied a cable to use with it) that should allow you to turn it on and off at the same time as your AVR/processor.

Dynamic delivery

I used the A-700 with my regular Yamaha RX-A3040 receiver, via the latter's preouts. Straight away, with a quintet of Elipson satellite speakers, the power amp immediately demonstrated that it had more gain at any given volume increment than the internal amplifiers of the Yamaha. And there is more to the A-700's positive attributes than raw volume. Reaching for a firm 'guilty pleasure' BD in the form of *Troll Hunter*, the Emotiva proved superb at responding to dynamic shifts in the soundtrack as the brooding Norwegian forests suddenly came alive with the wide selection of noises the trolls make. This ability to effortlessly relay major dynamic swings is something that really helps movie soundmixes convince.

The tonality is consistently accurate and believable. The way that the A-700 delivers the more grounded sound effects of F1 drama *Rush* (Blu-ray) is one that is natural and unforced. Engines sizzle with carefully rendered detail and Chris Hemsworth's affected (and pretty convincing) take on James Hunt's drawl has the weight and separation from the rest of the soundtrack to remain intelligible at all times. In fact, the A-700 is a bit of a champ in this particular regard – now matter what the movie, everything is clear and easy to follow.

It is important to put the abilities of this affordable amp in a degree of context. I'd suggest it is likely to improve the performance of pretty much any AV receiver up to about the £2,000 price point; it certainly did with my Yamaha. It isn't a way to 'cheat' your way into securing the performance of a seriously high-end multichannel amp, though – it lacks some of the spaciousness and real power of Parasound's Halo line [HCC #240] or NAD's M27 [HCC #255]. This should not be too surprising, given the price point.

Of course, five compact and easy-to-drive satellites aren't going to be the sternest challenge that Emotiva's amp is likely to face. With this in mind, I assembled a slightly random collection of speakers in the form of two Neat Acoustics Momentum floorstanders, a Neat IOTA as a centre and a pair of Acoustic Energy AE1 Classic standmounts as rears. This quintet promises low sensitivity, periodically challenging impedance and the sort of current

SPECIFICATIONS

POWER OUTPUT (CLAIMED): 7 x 80W (8 ohms, all-channels driven, 20Hz-20kHz, 0.1% THD) **CONNECTIONS:** 7 x phono inputs; 7 x speaker-level outputs; 12V trigger in/out **DIMENSIONS:** 432(w) x 102(h) x 394(d)mm **WEIGHT:** 13.4kg

FEATURES: All-metal construction; milled aluminium face plate; status LEDs

PARTNER WITH



EMOTIVA BASX MC-700:

A candidate to feed the A-700 is Emotiva's affordable (not Atmos/DTS:X) processor (£780). Features here are HDCP 2.2-equipped HDMI in/outs, Emo-Q auto-calibration, balanced sub outputs and parametric EQ.

requirements that would be a challenge for most AVRs... and the Emotiva doesn't break sweat at any stage.

The hysterically loud lightcycle battle in *Tron: Legacy* (BD) comes through without any strain or compression, and the same ability to pull detail out of the mix and make it apparent is once again impressive. You're unlikely to find a set of speakers below a few thousand pounds that this amp can't handle.

AV, the old-school way

The A-700 is no doubt unusual in the modern home cinema era – a low-cost power amp at a time when low-cost processors are rare and many AVRs are eschewing preouts altogether.

But it might well fit your requirements. For those with 3D audio systems, adding the A-700 to an AV receiver with good-quality decoding – and this need not be at the flagship level – will allow you to choose your main speakers with impunity and enjoy a deeply impressive performance while the AVR fills in the height channels. So while it might seem like a throwback to an earlier era, perhaps the A-700 is bang up-to-date ■

2. Hook your AVR/processor to the A-700's phono inputs, connect speakers, and away you go...

HCC VERDICT



Emotiva BasX A-700

→ £770 → karma-av.co.uk

WE SAY: The Emotiva offers fuss-free power (although it's not a monster amp) and deeply impressive audio performance at a bargain price.





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Richard Stevenson discovers Samsung's Atmos-free soundbar still hits the high notes with his BD collection

Smart system ready to rumble



Fitting somewhere in the middle of Samsung's burgeoning range of upper-market soundbars, the HW-MS750 is a mid-sized offering festooned with features and connectivity. As with the flagship K950 and MS650 tested previously, R&D has been completed at Samsung's California-based Audio Design Lab, so the promise here is of yet another high-performance partner for your flatscreen.

In fact, bespoke custom drivers (all 11 of them), 32-bit audio upscaling and Distortion Cancelling technology have all trickled down from the flagship HW-K950. Also on the spec sheet here are a trio of 4K-compatible HDMI ports, Bluetooth streaming and a bunch of music services supported via Samsung's slick Multiroom app.

The HW-MS750 claims to go right down to 35Hz in bass extension. That would be low for full-sized speakers, and is

downright subsonic from the confined cabinet space and small drivers of a soundbar. For day-to-day TV and music listening, the thinking goes, you simply don't need to add a subwoofer. For movie nights and extra depth, you might want one, though.

Enter Samsung's SWA-W700. This optional extra is a 15kg thing of subtle beauty. It offers a matt-grey finish, interesting spiral brushed metalwork and a rear-facing 10in driver. It pairs wirelessly via a dongle that plugs into the USB port on the soundbar. While there are no spec details for its onboard amplification, it does boast the same Distortion Cancelling technology. Claimed output is down to 27Hz.

The soundbar's 11-driver complement includes upfiring tweeters on the top surface. Sadly, this doesn't equate to Dolby Atmos playback; decoding is stoically Dolby and DTS in 5.1 guise. Those upfiring speakers simply aim to broaden and heighten the soundstage. Combined with super-width projection from the front drivers, the idea is to produce a sweet spot no matter where you are sitting in the room.



AV INFO

PRODUCT:
Premium soundbar/
sub system

POSITION:
Below Samsung's
K950 Dolby Atmos
5.1.4 bundle

PEERS:
Focal Dimension;
Yamaha YSP-5600;
Sony HT-ST5000

Well, within reason. Such tricks in the past have come with bags of phasey distortion but Samsung's clever electronics hope to keep everything together nicely.

The HW-MS750 packs in some other welcome features. If you have a current Samsung TV it will connect wirelessly, saving you using the HDMI passthrough or optical input. And then there's Smart sound, a feature we first enjoyed on the K950, which analyses the input signal in real time and adjusts output EQ on the fly. Again, there was a time when that sort of feature would result in an aural fiasco.

Dolb... Digi...

Style-wise, the HW-MS750 is relatively subtle and innocuous. It's rather square-looking, the whole thing is a sea of grey textures, and the blue display is a frustratingly short four-characters wide. For any info, setting or input name longer than four characters it has to scroll. The display and top corner indicator lamps shut off after a few seconds. Clearly the cosmetic ambition here is to allow the soundbar to disappear into your room.

The remote is Samsung's standard design and will, of course, control Samsung TVs and BD players. All of its main controls are replicated in the Multiroom app if you prefer to go with smart device operation. Optional extras include a bracket that allows the soundbar to hang below a TV without having to bolt it to the wall; a rear speaker pack to make it true 5.1; and the aforementioned SWA-W700 sub.

The HW-MS750 plus SWA-W700 pair, as tested here, will set you back £1,100 (there's a £200 saving on individual pricing when bundled). That isn't far off Samsung's HW-K950 flagship, which comes with its own sub, wireless rear speakers and Dolby Atmos decoding for a 5.1.4 soundstage. Adding rear speakers alone to the HW-MS750 would set you back another £250 for Samsung's SWA-9000S rear speaker kit.

So why not go for the K950 then? Well, the HW-MS750 is designed as a compact, high-quality soundbar solution for music and TV. It's solidly made, easy to use and at 'just' 115cm wide, it won't look out of place if your TV is smaller than 55in. There's none of the visual calamity of rear

1. The soundbar's bodywork hides two upfiring (but not Atmos) tweeters



speakers to muck up your minimalist décor. Moreover, the SWA-W700 would eat the K950's sub for breakfast and burp dinosaur footsteps from *Jurassic Park* afterwards.

It's a mystery to me

I've listened to enough Samsung soundbars this year to detect the California Lab's acoustic signature, which offers depth, clarity and projection into the room akin to listening to a good set of genuine front-end speakers. The HW-MS750 is absolutely no exception. Quite how Samsung's boffins manage to get such clarity and authoritative bass out of the soundbar alone is a mystery to me. Add in the sub and you get a full-scale presentation.

One of the best pre-credits opening sequence of any movie can be found in *Star Trek* (2009). You get tension, combat, action, cataclysmic explosions and heart-rending

'Smart mode adds further solidity and body to the presentation, creating a richer experience. Leave it on'

drama condensed into ten minutes of visual and audio delight. Against the stunning 4K HDR picture of the UHD BD, this Samsung pair did not disappoint.

The ship's ambience and space is supremely well presented. While those upfiring speakers may not be Atmos-enabled, they do a good job of expanding the sound into your room. Dialogue remains crisp and focused when the action is going off, and the bar's own LF extension keeps male voices true even if you are not using the sub. As the Federation ship collides with Nero's giant mining vessel, the interplay of explosions and silence is breath-taking.

Whack up the wick and this pairing hangs together to impressive volumes. My only critique here is that you get very little control over the subwoofer, just a few dB gain or cut relative to the soundbar volume. In my fair-sized 35m² room, and with my penchant for 'aving it large with movies, I could have done with a bit more actual bass volume. No complaints about its tautness or impact. I just wanted more of it.

SPECIFICATIONS (HW-MS750)

DRIVE UNITS: 11 x custom Samsung design drivers, including upfiring **AMPLIFICATION (CLAIMED):** 450W **CONNECTIONS:** 2 x HDMI inputs; HDMI output; optical digital audio input; analogue stereo input **DOLBY TRUEHD/DTS-HD MA:** Yes/Yes. Downmixed to 5.1 core **SEPARATE SUBWOOFER:** Optional. 10in driver, sealed cabinet **REMOTE CONTROL:** Yes **DIMENSIONS:** 1,150(w) x 80(h) x 131(d)mm **WEIGHT:** 6.3kg

FEATURES: Built-in Wi-Fi and Bluetooth; Distortion Cancelling; Smart sound mode; 5 x DSP modes; 32-bit audio upscaling; 4K HDR passthrough over HDMI; multiroom integration; Samsung Multiroom app; optional wall-mount kit; wireless subwoofer connection; wireless TV connection with compatible Samsung models

PARTNER WITH



SAMSUNG SWA-9000S:

This pair of rear speakers can join the HW-MS750 to create a genuine five-channel soundfield, using a wireless connection (and receiver box) to maintain the streamlined appeal. Pricing is around £250.

On less explosive films and for day-to-day listening the balance between the 'bar and sub is much better gauged. *Despicable Me 2* is close to our hearts here at HCC towers, both for the Dolby Vision 4K BD and because Gru reminds us of our editor Mark. The movie's sound is a festival of fun, too, with subtle effects from start to finish that this Samsung duo eked out and highlighted with precision and clarity, while retaining a naturalistic feel.

Music is a real strength of the brand's new breed of soundbars and the MS750 is rich, solid and well detailed... if you feed it the right source. Uncompressed FLAC and ALAC files through the optical input were superb, yet Bluetooth sounded distinctly flat and lacklustre in comparison.

Playing with the settings, you can't help but be impressed with the Smart mode. Depending on material, its effect can be anything from subtle to sublime but rarely did I not prefer the result. It seems to add further solidity and body to the overall presentation, creating an even richer listening experience. Leave it on.

You gotta roll with it

Samsung is on an audio roll at present, with investment in its new laboratory showing through all the latest-gen soundbars. The HW-MS750 may not be the best specified of the lineup, but can't be ignored.

Bought on its own, without the subwoofer, it delivers a superior one-box sonic solution. Yet for HCC readers with deep pockets, the added investment in the SWA-W700 woofer is a worthy one, despite niggles about its integration.

Whether you feel this setup, or the more complex HW-K950 package, is best comes down to features and design rather than audio performance. While the K950 does give you 5.1.4 Atmos, with associated speakers and complexity, the sleek sophistication and still expansive sound of this two-box rival is very appealing ■

3. Samsung's sealed SWA-W700 subwoofer uses a 10in rear-facing bass driver

HCC VERDICT



Samsung HW-MS750/SWA-W700

→ £700/£600 → www.samsung.co.uk

WE SAY: This soundbar may lack Atmos but its sophistication and solid, spacious sound is addictive. Add in the sub and you get a great movie experience without extra boxes and wires.

serie **C70** 75"/65"/55"
4K UHD TV



The Creative Life



AN EXCEPTIONAL PICTURE
DESERVES AN EXCEPTIONAL SOUND



This TV proves to **John Archer** that you don't have to spend a fortune to embrace the HDR revolution



AV INFO

PRODUCT:
55in 4K TV with HDR support and edge LED lighting

POSITION:
The lower middle of Sony's 2017 range

PEERS:
Samsung UE49MU7000;
Sony KD-55XE9005

HDR given a chance to shine

Much as we love high dynamic range (HDR) picture technology at *HCC*, there's no denying that it can represent a major performance challenge for relatively affordable TVs. If a TV doesn't have enough brightness, colour range, contrast and video processing prowess, it can lead to an HDR experience that's less satisfying than traditional SDR. It's a potent technology that needs handling with care.

Cue the new Sony KD-55XE8596. Despite costing a far from unreasonable £1,100, this 55in flatscreen continues Sony's generally impressive run of 2017 TVs by confidently handling whatever you might decide to throw at it, including HDR.

Considering its mid-range rather than premium status, the 55XE8596 is pretty easy on the eye. Its frame and rear are both slim, and its centrally mounted open-frame stand is practical and unassuming. But it's not the most robustly built TV around; there's clearly plenty of plastic in the

bodywork. You only really notice this, though, when putting the TV together. It's not obvious from a distance.

The screen carries a native 4K resolution, as we'd expect these days, and its support for the HDR10 industry HDR standard is joined by playback of HLG: a second HDR system set to be used by broadcasters.

Unlike Sony's ZD9, XE94 and XE93 TVs this year, the 55XE8596 can't be upgraded via a future firmware update to also handle Dolby's advanced Dolby Vision HDR platform. This is because it uses Sony's X1 chipset, rather than the X1 Extreme chipset employed in those more powerful models.

Using Sony's less potent processor also means the 55XE8596 doesn't get the dual-database system for advanced upscaling of non-4K sources found on Sony's high-end TVs.

Before you get too disheartened, though, the 55XE8596 does still have the power to drive Sony's much-lauded Triluminos wide colour gamut technology; a strikingly effective MotionFlow system for reducing judder and blur; a Super Bitmap engine designed to do away with the sort of colour striping some TVs exhibit when showing HDR; and, hopefully, a repeat performance of Sony's usually superb HD upscaling.

The 55XE8596 also differs from Sony's more expensive models with its lighting system. LEDs here are mounted around the image's edges (while the ZD9 and XE94 models uses lights directly behind the screen), and there's no local dimming of this lighting of the sort you get with the edge-lit XE93s. Instead you get full-frame dimming, where the brightness of the whole image is adjusted on the fly to optimise contrast.

Again, though, this isn't necessarily a cause for concern. Having no local dimming means there's no potential for seeing the sort of distracting light banding and squaring issues you can get with local dimming sets.

Robotic UI

The 55XE8596's smart engine is powered by Android TV, using the Nougat platform. This interface still doesn't feel properly optimised for a TV rather than smartphone environment thanks to its screen-filling, icon-heavy menus. It also commits the cardinal sin of being too dictatorial in its approach, leaving you feeling like it's more interested in pushing content on you rather than letting your set up your own streamlined menus to get to your favourite stuff faster.

Sony has at least taken care, though, to work around Android TV's occasional content limitations. Both the Netflix and Amazon Video apps thus support HDR and 4K, while the full suite of key UK broadcast catchup services is handled by a built-in YouView app. This provides an electronic programme guide that

lets you scroll back in time, as well as forwards, to find shows you've missed.

Wrapping up a strong set of features for its money is a comprehensive suite of connections, including four HDMI's, three USBs and the usual Wi-Fi/Bluetooth/Ethernet network playback options.

The only way is up

Instead of focusing initially on the many things the 55XE8596 does right, I'll kick off with what it gets wrong.

First, its sound quality is only average. Sure, it can go loud, and it manages to push its soundstage far beyond the confines of the TV's bodywork. A pretty stark lack of bass,

'This mid-range Ultra HD 55in flatscreen continues Sony's generally impressive run of 2017 TVs'

though, leaves *Guardians Of The Galaxy Vol. 2* on 4K Blu-ray sounding thin to the point of harshness during the film's action scenes or frequent pop music workouts.

Images, meanwhile, lose contrast and colour saturation rapidly if viewed from an angle of more than 25-30 degrees – not ideal if you've got a big family to accommodate in a smallish room and you're watching something with as much contrast and colour dynamism as the *Guardians of the Galaxy Vol. 2* 4K platter.

The 55XE8596's biggest image issue, though, is a measured peak brightness (on a 10 per cent white HDR window) of under 430 nits. This is less than a third of the brightness of Sony's XE93 range this year, and inevitably sets a cap on the impact you can enjoy with HDR sources.

For instance, with *Guardians...* the brightest parts of Ego's home-grown planet and the HUDs in the Guardians'

spaceship don't explode off the screen with the same dazzling impact as they do with brighter sets. The rich colours of sequences such as the firework funeral near the end, or the classic opening credits fight scene, don't contain as much volume and dynamism as they would with more brightness on hand, either.

And dark parts of a picture occasionally look slightly silhouetted (lacking in subtle light detail) if they're appearing against a brighter backdrop.

Crucially, though, none of this prevents the 55XE8596 from >



1. The XE8596 uses edge LEDs with full-frame dimming

2. Sony's IR remote offers one-button access to Google Play and Netflix apps

delivering a palpable step up in colour, brightness and contrast from standard dynamic range sources. Indeed, *Guardians of the Galaxy Vol. 2*'s HDR colours flaunt greater dynamism than they do on the ordinary SDR Blu-ray, and there's clearly more of a 'gap' between the picture's darkest and brightest parts – as well as skilfully rendered extra steps in between the image's light extremes.

'The XE8596 offers one of the best HDR images I've seen on a 55in TV around this price'

There's outstanding detailing from the 55XE8596's 4K pixel count too, aided and abetted by excellent, striping-free colour management courtesy of the Triluminos engine.

As with Samsung's UE49MU7000 [HCC #277], the absence of local dimming actually has benefits when it comes to image stability. Rather than risking distracting light bars across the panel, Sony's full-frame approach and excellent backlight management means the TV's SDR-thrashing thrills suffer little from greyed-over blacks and obvious clouding. The compromise, of course, is less sheer HDR precision and brightness, but it's a compromise I'm happy to make – this is one of the best HDR images I've seen on a 55in TV at this price.

Foolproof Full HD

The TV's picture abilities extend beyond 4K HDR replay, of course. It doesn't play 3D content (hardly any TVs these days do), but is accomplished with HD standard dynamic range sources – the BDs and TV broadcasts most of us are still watching for the majority of the time. Video processing may be less powerful on this step-down model, but in use this is easily forgotten, as the 55XE8596 effectively adds

SPECIFICATIONS

3D: No **4K:** Yes. 3,840 x 2,160 **HDR:** Yes. HDR10; HLG **TUNER:** Yes. Freeview HD; satellite **CONNECTIONS:** 4 x HDMI inputs; 3 x USB; RF input; Ethernet; headphone jack; optical digital audio output **SOUND (CLAIMED):** 20W **BRIGHTNESS (CLAIMED):** N/A **CONTRAST RATIO (CLAIMED):** N/A **DIMENSIONS (OFF STAND):** 1,232(w) x 717(h) x 57(d)mm **WEIGHT (OFF STAND):** 18.6kg

FEATURES: Built-in Wi-Fi; USB and DLNA multimedia playback; X1 processing engine; Android TV operating system; Triluminos colour system; Super Bitmapping colour management; MotionFlow video processing; 4K X-Reality PRO; Dynamic Contrast Enhancer; USB recording; edge LED with frame dimming

PARTNER WITH



SONY STR-DN1080: Dolby Atmos makes its Sony AVR debut on this seven-channel model that tempts with a £550 price tag. Extensive features include Chromecast built-in, phantom rear back processing and wide-ranging hi-res audio support.

the necessary millions of extra pixels to 1080 sources without exaggerating noise. Meanwhile, the extended contrast and colour capabilities provided to handle HDR scale down effortlessly to SDR, yielding subtle and detailed visuals that are a joy to behold.

Yes, there are some picture quality compromises compared with Sony's higher-end 2017 TVs (luminance being the most obvious), and reservations about general design and audio performance, but this remains an exciting set. The brand is offering serious picture quality without breaking the bank ■

3. Not ultra-thin, but still svelte compared to LCDs of yesteryear

4. A centralised stand makes the TV easy to mount on AV furniture

HCC VERDICT



Sony KD-55XE8596

→ £1,100 → www.sony.co.uk

WE SAY: If you're after a bigscreen 4K TV that doesn't cost the earth but can still deliver a sensible, balanced approach to HDR, this Sony ticks all the boxes.



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Say 'hello' to your little friend

Naim Audio might not be the first company you think of for enhancing the sound of your TV, but its Atom one-box system gives [Ed Selley](#) plenty to applaud

ONE OF THE big growth areas in stereo audio over the last few years has been in all-in-one systems. These single-chassis units offer a variety of inputs and features, plus onboard amplification to which you simply bolt the speakers of your choice. Naim was an early competitor in the category – its original Uniti arriving nearly a decade ago and eventually becoming an entire range.

Tested here is the first of an all-new second generation of Uniti models that intends to build on the strengths of its predecessors. The Atom, as the name implies, is the smallest of three systems, but its specification is hardly diminutive.

As well as onboard streaming with internet radio, Tidal and Spotify integration (through dual-band Wi-Fi or Ethernet), you get AirPlay, aptX Bluetooth, Chromecast built-in, three digital inputs – two (24-bit/96kHz) optical, one (24-bit/192kHz) coaxial – and a phono analogue stereo connection.

These are supported by a pre-out connection and two USB-A inputs that can read content and, if you wish, serve it to other devices on your network. There's also a 3.5mm headphone socket.

Power comes from a class A/B amplifier rated at 40W-per-channel, adapted from Naim's entry-level (although at over a grand, the term is relative) integrated amp, the NAIT 5si. Now, 40W doesn't sound hugely powerful but historically Naim equipment hasn't struggled with demanding loads and the Atom has been perfectly happy driving a hefty pair of PMC twenty5.24 floorstanders during my audition. Note that Naim's speaker terminals require the use of loudspeaker cable with 4mm plugs.

Under the hood, Burr-Brown DACs and a 40-bit SHARC DSP join forces with proprietary Naim software to promise a premium audio performance.

HDMI upgrade

The Atom is clearly a hi-fi product, from a brand well-known in audiophile circles. The reason that it is of interest to *HCC* comes in the form of an optional connection. For an extra £100, Naim can fit its one-box with a single HDMI input that allows it to receive the ARC signal from



AV INFO

PRODUCT:

High-end amp/streamer all-in-one system

POSITION:

Entry-level member of Naim Audio's Uniti family

PEERS:

Moon Neo ACE; Auralic Parris

your TV. There's no surround processing here, of course, so the signal needs to be stereo, but it still puts it in a unique position among systems of this nature, and gives it the potential to be a genuine central hub for all your home entertainment needs. If you're not interested in surround sound, that is.

No less relevant to attracting a wider audience is the Atom's design aesthetic. Forget what you know about traditional British hi-fi and revel in a truly stunning piece of industrial styling. With its large, bright full-colour LCD display on the front fascia, and wonderfully tactile illuminated volume control on the top panel, this manages to look and feel special. Even the side-mounted heatsinks have eye-catching charm. It would be foolish to call the £1,900 Atom 'affordable' but you can see where much of your money goes.

For operation you will probably find yourself using the excellent Android and iOS control app, as this is a conduit to your music libraries, but the bespoke remote handset is a fine alternative.

ARC de triomphe

Hooked up to my Panasonic plasma's ARC-enabled HDMI connection, the Atom has no trouble handling the audio signal from a Cambridge Audio 752BD, Sky+HD box and the TV's in-built Netflix client.

Watching *Moana*, the most notable element of the Naim's performance is that after no more than a few minutes, the lack of surround effects ceases to matter much. In the climactic attempts to restore the Heart of Tahiti, this little hub and my connected PMC speakers create a soundstage that is entirely free from any gap in the middle, and unearth an impressive amount of detail within the soundtrack at the same time. It's a tactile presentation, with delicate imaging.

Also impressive is the tonality. When *Moana* begins to warble, the way that the Atom handles Auli'i Cravalho's vocals is absolutely outstanding; rich and life-like.

Where this processor/amp really excels is making everything sound like it should. With a giant lava monster that's a fairly abstract concept, but with the snarling engines of *The Fate of the Furious* it massively helps the suspension of disbelief.

This material does show up that, even via the sizeable PMC speakers, the Atom is not the most seismic performer. Compared to a more powerful (and rather more expensive) Naim Supernait2, it doesn't hit as hard, and this is more noticeable when you substitute a pair of rather more affordable speakers (in my case some KEF Q350 standmounts).

You can, of course, use an active subwoofer via the Atom's stereo pre-outs. Adding one of the REL T7is (reviewed in *HCC* 277) that was still to hand worked well at providing a bit more welly, particularly helping to fill out TV soundtracks that can sound fractionally lightweight without it. As there's no onboard crossover settings on the Atom, you will need to use your sub's own controls to dial it in.

It's assured with TV and movie material, but you wouldn't buy the Atom solely to wire up to your flatscreen.

SPECIFICATIONS

AMPLIFICATION (CLAIMED): 2 x 40W (into 8 ohms) **CONNECTIONS:** HDMI ARC input (optional paid upgrade); 2 x optical digital audio inputs; coaxial digital audio input; analogue stereo phono input; 2 x USB-A inputs; 3.5mm headphone output; stereo phono pre-out; Ethernet; stereo speaker terminals **INTEGRATED SERVICES:** Tidal; Spotify Connect; internet radio via vTuner **DIMENSIONS:** 245(w) x 265(d) x 95(h)mm **WEIGHT:** 7kg

FEATURES: Android/iOS control app; Apple AirPlay; aptX Bluetooth; Chromecast built-in; UPnP server and renderer; file support includes WAV (to 32-bit/384kHz), FLAC (24-bit/384kHz), AIFF (24-bit/384kHz), ALAC (24-bit/384kHz), MP3, AAC, OGG, WMA and DSD64/128; gapless playback; 5in colour display; illuminated volume control; proximity sensor; Power-Line Lite mains cable

PARTNER WITH



KEF Q350: The Q series has been retooled for 2017, and the range includes these compact models (£530-per-pair) totting a single UniQ driver. There are also Q Series floorstander and centre models – plus Atmos modules on the way...

Indeed, where this black beauty really opens a gap to more mainstream rivals is when you switch to playing music.

It isn't 'good for an all-in-one' system, it's good full stop. The beautifully integrated streaming front-end sounds punchy and dynamic without ever forcing slower and more considered material. Integration of your own music and albums available via streaming services on the control app is effortlessly slick, and makes extended listening sessions a genuine pleasure. The result of attaching a Rega Planar 6 turntable and its supporting Fono MC phono stage to the Atom's analogue input is no less musically satisfying and works brilliantly, too.

Sensational sonics

Naim's Uniti Atom is an enticing proposition for audiophiles, catering to physical and streamed sources with attention to usability, design and performance. And the HDMI upgrade extends its appeal – I can see this fitting into a high-end second room system, where stereo prowess and compact dimensions are more important than authentic surround. You are limited to using your TV as a source switcher, but the payoff is a product that looks and feels fantastic while delivering sensational sonics ■



1. A proximity sensor wakes up the front display when you approach it. Clever

2. Control is via the Naim App or the neat, clutter-free handset

HCC VERDICT



Naim Uniti Atom

→ £1,900 (with optional HDMI input) → www.naimaudio.com

WE SAY: Not inexpensive, and resolutely two-channel, but the Atom is intensely desirable. Perhaps a perfect partner for a premium TV and stereo speaker pair.

**GIRL POWER**

Supergirl's second season packs a punch on Blu-ray, p102

Larging it for less

Hisense continues to undercut its rivals, this time with a 65in 4K and HDR-capable TV selling for just £1,100. **John Archer** puts it to the test

WHILE TOSHIBA IS coming back to the UK market with a range of Ultra HD TVs, it'll find the space it vacated now occupied by Hisense, the Chinese giant that's grown a reputation for making well-specified TVs retailing at enticing prices. It's H65N6800 is of that ilk, a 65in, 4K HDR TV with a ticket – £1,100 – that made me do a cartoon-style double-take. Sony's KD-55XE8596, also reviewed in this issue (p56), costs around the same and is significantly smaller. We are officially in bigscreen bargain territory.

Look at the specifications sheet and styling and it's not immediately obvious where this TV cuts any corners. Its HDR talents include HLG (via a promised future firmware update) in addition to HDR10. Connectivity, with four HDMI inputs, three USB ports, Wi-Fi and Ethernet, mirrors that of high-end rivals. Its frame is on-trend thin, and its finish is robust and metallic (although the way the two feet sit near each bottom corner could be a problem, as it means you'll need a piece of mounting furniture almost as wide as the TV itself).

However, only two of the HDMI ports support 4K HDR playback – HDMI 3 and 4 are v1.4. Furthermore, the 3,840 x 2,160 panel is an 8-bit design, and the Nvidia-powered smart system, while pretty, provided only a limited suite of online apps at the time of audition – Netflix, BBC iPlayer, Amazon Video, YouTube, Wuaki TV, BBC News, BBC Sport and Chili, but no ITV, Channel 4 or Channel 5 catchup services. This should be rectified once a scheduled Freeview Play firmware update has landed, possibly by the time you read this.

The Netflix app supports streaming in HDR as well as 4K, while the Amazon app supports 4K. The latter should apparently support HDR as well, but didn't work for me.

Under my umbrella

The H65N6800 isn't stuffed with picture processing features. Its fancy-sounding 'ULED' branding is actually an umbrella term for wide colour gamut support, local backlight dimming, 4K resolution and motion processing – the sort of stuff found on almost any 4K HDR TV.

AV INFO

PRODUCT:
Affordable 65in 4K LCD TV with HDR support

POSITION:
Around the middle of Hisense's current range

PEERS:
Sony KD-55XE8596; Samsung QE55Q8C

The screen is lit by edge LEDs, apparently driven by a local dimming system. Why 'apparently'? Because the local dimming has almost no impact on contrast – or anything else. Weird. There is a good side to its 'gentleness', though, in that it causes hardly any backlight blocking around the flaming torches and candles in Nun's hut on the *Exodus: Gods And Kings* 4K Blu-ray – an HDR sequence that usually tortures locally dimmed edge-lit sets.

The relative freedom from backlight clouding is also partly due, however, to a fairly uninspiring core black level performance. Dark scenes, such as Moses' clandestine meetings with God, routinely look greyed over, especially if they contain any bright HDR elements.

Also, the H65N6800's backlight isn't completely cloud-free; I sometimes noticed light-jetting in the corners, even though this issue is usually not found on TVs with local dimming.

This bigscreen is much more at home with predominantly bright HDR visuals. The 530 nits of light output that its Dynamic picture preset measured on a 10 per cent white HDR window is slightly higher than I was expecting, and it joins with a decent colour range to help such punchy *Exodus* scenes, such as Ramses' coronation, look much more vivid and three-dimensional than they do in SDR.

The image's brightest elements have a searing intensity too; on this HDR TV, Ramses' gold armour glints with far greater conviction during the early battle with the Hittites.

And its general HDR brightness is sufficient, too, to stop dark parts of otherwise bright shots looking crushed out – a common budget HDR TV issue.

More good news finds the 65N6800 suffering hardly at all with colour striping during HDR playback. This is something I've previously encountered during the sequence where Moses lies on a beach at night ahead of the Red Sea doing its miraculous party trick, but here tones were stable and well-blended, suggesting effective processing.

If you want to get HDR looking respectable on the 65N6800, please note that you have to use the TV's Dynamic preset, and keep contrast to its 50 level or less. Otherwise the set suffers a gross loss of subtle detailing in bright image areas, noticeable with the *Exodus* 4K BD in the clouds when Moses meets the Pharaoh on his terrace.

The TV's colour performance with HDR is solid. It's punchy and dynamic, though not as full of subtle tonal shifts and blends as the best HDR exponents. Also, if you leave the colour setting higher than its 52 point, some tones look too aggressive and exhibit noise.

Gamers will be pleased to hear that the 65N6800's HDR Game preset actually looks pretty decent, and delivered input lag measurements of under 30ms. For a largescreen frag-fest, this Hisense has obvious appeal.

Away from HDR

While the 65N6800 can sometimes look good with HDR, it's a patchy performance overall. Fortunately it's on much more consistent ground with standard dynamic range images. Black levels appear richer and deeper, colours look

SPECIFICATIONS

3D: No **4K:** Yes, 3,840 x 2,160 **HDR:** Yes, HDR10, plus HLG via a promised firmware upgrade **TUNER:** Yes, Freeview HD; satellite **CONNECTIONS:** 4 x HDMI inputs; 3 x USBs; RF input; headphone jack; Ethernet port; composite video port; CI slot; optical digital audio output **SOUND (CLAIMED):** 2 x 10W **BRIGHTNESS (CLAIMED):** N/A **CONTRAST (CLAIMED):** N/A **DIMENSIONS (OFF STAND):** 1,452(w) x 835(h) x 61(d)mm **WEIGHT (OFF STAND):** 39kg

FEATURES: Built-in Wi-Fi; USB/network multimedia playback; ULED technology; wide colour gamut; motion processing; Nvidia-powered smart engine; Freeview Play promised via future update; edge lighting with local dimming

PARTNER WITH



XBOX ONE X: Get your pre-order in now for Microsoft's flagship Xbox, due for release early November, priced £450. The console supports 4K HDR Blu-ray, Dolby Atmos, native 4K gaming and is backwards compatible with Xbox One software.

more consistently balanced, the corner jetting issue is much less noticeable, and detail levels with relatively static 4K images are high.

Not that the H65N6800's SDR pictures are perfect, though. Black levels are still below best-in-class, and the set's 4K upscaling tends to exaggerate source noise and grain. There are more general issues too. Hisense's motion processing, for instance, causes clear haloing artefacts during *Exodus*...s frenetic Hittite battle sequence, yet movement becomes juddery and indistinct with the motion processing off.

The TV's noise reduction processing makes the picture look mushy, effective viewing angles are limited to around 20 degrees, and, finally, you'll want to tinker with whichever of the picture presets you employ.

Its audio is functional. The integrated 2 x 10W speaker system can raise a smile through its volume and clarity, remaining controlled even as the Red Sea comes crashing in on Moses and Ramses, with voices always sounding reasonably clear. The soundstage remains resolutely narrow, though, while a persistent lack of bass makes the Red Sea tsunami sound more like a two-foot breaker at Weston-super-Mare.

A decision to make

Ultimately, this 65-incher is a bit confusing. With SDR pictures, especially 4K SDR pictures, it's surprisingly effective for its money. It's big, bright and sharp. Yet while HDR viewing can have its moments, it can also expose the set's less accomplished black levels and backlight control.

In the end, potential buyers of the Hisense H65N6800 will have to decide if they'd rather spend £1,100 on a smaller but more high-performance TV, or accept this set's foibles as a fair trade for its sheer enormity ■

1. Hisense has promised updates for HLG compatibility and Freeview Play functionality

2. Two of the TV's four HDMI inputs are v1.4



HCC VERDICT



Hisense H65N6800

→ £1,100 → www.hisense.co.uk

WE SAY: Probably inevitably, the H65N6800 isn't without its flaws, especially with HDR. But its screen size, price tag and specification will find it fans.

Mini movies

Optoma's new ML330 projector is far more than a toy, reckons **Martin Pipe**



The ML330 uses LEDs to craft its short-throw images

OPTOMA'S ML330 MINI-PROJECTOR is more fun than fantastic, but certainly does what it sets out to do.

It's not the smallest such unit on the market, sizing up at 157(w) x 133(d) x 35(h) mm. What's more you don't get a built-in battery pack for portable use. The reliance on a 19V DC supply does enable it to be powered by some laptop-ready varieties of portable power bank, though.

On the plus side, the 460g ML330 is smarter than many full-sized projectors. It has an in-built ARM Cortex A7 quad-core processor running Android 4.4 (Kitkat). Think three-year-old smartphone, and you'll get the idea. The PJ will play video clips or movies from DLNA servers, USB media, a microSD slot or the 'net (via Ethernet or Wi-Fi).

A comprehensive media player forms part of the supplied software, but you could also screen-mirror a smartphone, indulge in Android gaming or install apps for services like YouTube and Netflix.

Everything is driven from the supplied handset, which has a pointer mode. You can also plug in a USB

mouse and keyboard, the latter helpful when entering website URLs and media server passwords – and essential if you want to use the ML330 for a spot of bigscreen word-processing. Which you might.

The projector casts an image with a 1,280 x 800 resolution (WXGA, and a 16:10 aspect ratio – rather than the 16:9 of conventional 1,280 x 720 HD Ready devices). It works in conjunction with a quick-start LED light source, which, says Optoma, has a life of 20,000 hours. No need to worry about replacement then, or considerations like dynamic range if the stated contrast-ratio of 20,000:1 is to be believed...

Incredibly, the ML330 supports 3D playback if you're prepared to seek out some DLP-Link active shutter glasses. Your 3D BD deck can hook in via the standard-size HDMI input.

Speak up!

An internal two-watt squeaker puts in a rather mediocre effort, but there's a headphone socket that doubles as an S/PDIF digital audio out for AVRs. Rather more useful, given its likely roles, is Bluetooth transmission – soundtracks can be streamed wirelessly to a compatible speaker system.

I was impressed with just how bright and dynamic pictures from the ML330 can be. A 60in image from the short-throw lens (there's no zoom – you simply move the

SPECIFICATIONS

3D: Yes. **4K:** No. 1,280 x 800 (WXGA)
CONNECTIONS: HDMI; 2 x USB; microSD slot; Ethernet; composite/stereo analogue/digital audio 3.5mm
BRIGHTNESS (CLAIMED): 500 Lumens
CONTRAST (CLAIMED): 20,000:1
DIMENSIONS: 157(w) x 35(h) x 133(d)mm
WEIGHT: 0.46kg

FEATURES: Bluetooth; Wi-Fi; carry case supplied; Android 4.4 smart functionality; LED light source (claimed 20,000-hour life); vertical keystone correction; 10in-120in image; DLP-Link for optional 3D glasses; MHL support; built-in 2W speaker; 16:10 native aspect ratio

projector to achieve the desired picture size, and thumbwheel into focus) proved to be just as bright as a normal TV. Furthermore, DLP rainbow artefacts were barely visible.

But there's a caveat. Out of the box, visuals are compromised by unrealistic flesh tones and oversaturated colours. And regrettably, Optoma hasn't made correction particularly easy, because all of the adjustments – and there are plenty – have to be made blind as the menus obscure the picture. Optoma should fix this with new firmware if possible.

On the whole, the recent re-imagining of *Ghost in the Shell* (Blu-ray) fared well. Rupert Sanders' dystopian neo-neo-Tokyo (an amalgam of *Akira*, *Blade Runner...* and *Back to the Future 2*) is here a vibrantly rendered treat of neon, grime, skyscrapers and 3D projections. You don't get the same close-to-the-bone definition of a good 1080p display, though. Furthermore, I noted that shadow detail in murkier scenes (Chapter 7) was largely absent, particularly from the hideaway used by Killian and Motoko in their past lives.

Black levels are fair, but not up to the standard of dedicated home cinema gear, which robs the image of its sense of depth and contrast – 3D material (which can feel a little 'cardboard-cutout' at times) fares better in this regard as the projector doesn't compensate for the light-sapping tendencies of the glasses.

I also found that Optoma's cooling fan could drown out the internal speaker on occasions.

But I'm nit-picking here. If you want a well-specified and affordable mini-PJ you can take on the road or into the bedroom, the ML330 deserves a look ■

AV INFO

PRODUCT: HD Ready DLP/LED projector with Android and 3D support

POSITION: Entry-level in Optoma's mobile LED PJ range

PEERS: BenQ GS1; LG PH550G

HCC VERDICT



Optoma ML330

→ £400 → www.optoma.co.uk

WE SAY: A smallscale projector with more tricks than you might expect. AV quality isn't its strongest point, but it's reasonably priced.

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Why-fi?

You've probably already got a router. Your internet provider gave it to you. Why then, asks **Martin Pipe**, do you need the Synology RT1900ac?

REGULAR READERS WILL probably be aware of Synology, the NAS (Network Attached Storage) products of which have been featured in *HCC* reviews. Amongst other things, NAS enables you to set up a media 'tank' – containing TV recordings, video, movies, photos and music – that can be accessed by most, if not all, of your household's networked AV devices.

So when Synology encroaches into a market dominated by other IT giants, it's worth paying attention. The territory in question is the router – a lump of plastic, usually supplied by your Internet Service Provider (ISP), that allows your broadband 'net connection to be shared by your network-aware home tech. All support Wi-Fi and wired Ethernet, and most also contain the modem that interfaces to your ISP's specific outside-world infrastructure.

You were likely given one by the company that charges you monthly for your family's regular broadband fix, but you can splash out for a third-party model. Why? Because it usually does more and performs better. BT makes a lot of fuss about how much better its router's Wi-Fi range is than the competition. This is more an admission about how lousy the average ISP router is. Fair enough; it's built down to a price.

And so to Synology's RT1900ac. This matt-black box looks the business, with its

three Wi-Fi aerials and green status LEDs. It's purely a router, which means you'll still need a modem to get online to your ISP. If yours is built into the ISP's router, no worries; nearly all (among them my Netgear-made Virgin Super Hub 2ac) have a modem-only mode.

AV INFO

PRODUCT: Router with in-built NAS function

POSITION: Synology's first router, alongside its 2600ac big brother

PEERS: Netgear Orbi; Asus RT-AC3200



Your ISP should be able to advise on how to engage it. Synology supplies an Ethernet patch cord to connect your modem to the RT1900ac.

Wi-Fi frenzy

The 1900ac part of the name alludes to the IEEE 802.11ac wireless networking capabilities and the unit's potential 1,900Mbps capacity (600Mbps for 2.4GHz band, plus a simultaneous 1,300Mbps on the much quieter 5GHz band). That trounces most ISP routers, some older examples of which don't even support 5GHz. Basically, it translates to faster Wi-Fi and an ability to support more users simultaneously. Reducing bottlenecks facilitates optimal sharing of your overall broadband capacity; note that four

SPECIFICATIONS

WI-FI: IEEE 802.11ac; 2.4GHz/5GHz

HARDWARE: 1GHz Broadcom BCM58622 (dual-core ARM Cortex A9) CPU; 256MB RAM; 4GB non-volatile flash memory

CONNECTIONS: Gigabit Ethernet (4 devices, 1 for modem); USB 3.0; SD card slot

DIMENSIONS (WITHOUT AERIALS): 206(w) x 38(h) x 146(d)mm **WEIGHT:** 0.51kg

FEATURES: SRM operating system/web interface; USB/SD card NAS with SMB server function; enhancement through apps (e.g., DLNA media server, cloud backup); WPS support; guest networks; parental controls; network bandwidth prioritisation

If Wolverine was going to buy a new router, he'd probably go for this one...

Ethernet ports are provided for wired connections too.

But there's more to the RT1900ac. It can be optimised for various IPTV and VoIP services, and the user interface provides connection diagrams. You can configure the unit (Wi-Fi passwords and access-point names, connected devices, bandwidth prioritisation, parental controls, two guest networks, a powerful firewall...) via a slick web interface – Synology Router Manager (SRM) – the friendly feel of which will be familiar to users of its NAS devices.

It will even support the addition of new functionality via apps. Currently, there are seven of these. One's a BitTorrent-ready download application, and there's also a fully-blown DLNA media server, because the RT1900ac contains a NAS function. No storage is built in, though – you plug in an SD card or USB storage (hard drives or large flash-memory sticks) into its side-mounted ports.

And it all works well. The DLNA server was able to serve up 16-bit FLAC audio and a Full HD MKV movie simultaneously without glitches, although dedicated NAS boxes offer higher throughput.

2.4GHz Wi-Fi performance is truly excellent, 5GHz less so. The former's range is much better than that of my Virgin router, meaning I could get away without a repeater (this was moved to a location further away, increasing the Wi-Fi reach of my narrow but long home).

If you want to step up from an ISP's router while exploring the benefits of NAS, then the RT1900ac is recommended ■

HCC VERDICT



Synology RT1900ac

→ £150 → www.synology.com

WE SAY: This feature-laden router throws in NAS functionality and plenty of control, but faces competition from mesh Wi-Fi rivals.

Vaux Speaker

Make your Amazon Echo Dot portable with this battery-speaker upgrade, says **Steve May**

USING A VOICE-CONTROLLED smart speaker like the Amazon Echo or the smaller Echo Dot is addictive. You quickly get used to issuing commands and engaging in one-sided banter whenever you walk into a room (much like marriage really). But there are places where Amazon's Alexa AI just can't go due to the mains power requirements of the two speakers – the bathroom, the patio, beside your jacuzzi (at least in the UK, where we don't have the Amazon Tap). And at times like that, some addicts will feel bereft. Enter the Vaux, a battery-powered speaker designed to set Amazon's Echo Dot free, and bolster its sonics.

The design is slick. Popped in from the top, the small-scale Dot (itself £45) sits snug within the Vaux,



HOME CINEMA
Choice
RECOMMENDED

The Echo Dot loads into the Vaux from the top

its power and audio minijack connectors hidden by a soft rubber flap.

The fit is flush, but not so that it obscures the Dot's LED light ring or microphone array. The speaker itself has power button and uses a standard microUSB input for charging its six-hour-rated battery.

The Vaux is shorter (163mm) and somewhat dumber than the full-size Amazon Echo, and has very different audio characteristics. It's less refined, but sounds fuller and has a comparatively louder

demeanour. It can easily fill a small room or office. This isn't hi-fi by any stretch, but for casual use it's fine.

Functionality is more what this add-on is about, and it's great. Being able to transport your Dot is quite a hoot. Take the Vaux onto the veranda and have Alexa read the news over breakfast, or pop it in the garage when sorting out your old LaserDiscs. And as the Dot supports Bluetooth, you can connect direct if you have local content you want to play.

The Vaux effectively reimagines the speaker dock for the smart assistant age. It's hard to imagine owning a Dot without one, and this partnership still retails for less than the cost of a full-size Echo ■

HCC VERDICT



Vaux Speaker

→ £50 → www.ninety7life.com

WWW.ROYOLE.COM/MOON/£850

Royole Moon

This personal home cinema headset impresses **Jamie Carter**, despite wearability issues

HOME CINEMA JUST got personal. The Royole Moon may not be the only wearable device around that promises a bigscreen experience from inside a headset, but it is probably the best. Compared to its rival the Avegant Glyph, the Royole Moon ups the resolution from 720p to 1080p per eye, and adds AMOLED panels. That means

The Royole Moon features noise-cancelling cans

luscious black levels, excellent colour reproduction and enough detail to make a genuinely immersive experience. I was impressed with how close the screen appears to be within a wide field of vision, and the musicality of the (noise cancelling) headphones is also worthy of praise.

It's easy enough to drag and drop videos, photos and music onto the Android-based box that's wired to the headset. A PC or Mac treats it just like any Android 'phone or tablet, and the box plays back numerous flavours of video formats. It can also attach to any games console or Blu-ray player via HDMI, so is a candidate for a space-saving home cinema.

Dark side of the Moon

So why does the Royole Moon lack must-have appeal? Well, the best reason not to buy the Royole Moon – aside from its very high price – is its weight. Despite a soft eyepiece, its



690g bulk is not only hard to position comfortably, but it slips down while being worn. Battery life is also a problem; at just five hours, this isn't going to bring enough joy on a long-haul flight.

And then there's the price. At £850, the Royole Moon costs the same as some 50in+ 4K TVs.

The emerging world of personal home cinema is intriguing, but this piece of kit needs a price drop and a more slimline design to really succeed ■

HCC VERDICT



Royole Moon

→ £850 → www.royole.com/moon

Accessorize me!

Wired headphones

In a world of Bluetooth transmission and noise cancelling tech, why would you want to buy 'normal' headphones? **Ed Selley** explains

IF YOU HAVEN'T been paying attention recently, headphones have become increasingly clever as our lives have become rife with smart, mobile sources. Wireless Bluetooth connectivity and active noise cancelling are now commonplace, with some headphones going further by offering EQ apps and setup software.

So with all this technical firepower available, why would you want to invest in a conventional, wired pair of headphones? And why would you spend the cost of a 4K Blu-ray player on them?

The reason is simple enough. For home listening from a decent source, Bluetooth and noise cancelling functionality are largely

irrelevant. In your viewing room there should be little external noise to cancel out and no reason why you can't run a wired connection. Rather, you'll want the best drivers and enclosures you can get your hands on, and rely on the quality of your

'Being able to listen in private comfort can help you get the most out of the rest of your AV setup'

supporting hardware to ensure the highest possible performance. And being able to listen in personal comfort – without shaking the walls of your house – can help you get the most out of the rest of your setup.

Here we've assembled a quartet of likely candidates that avoid bells and whistles. For movies, we've paired the 'phones with an AV receiver, Blu-ray player and Sky+HD, running choice cuts including the Beastie Boys sequence from *Star Trek Beyond* and an episode of *Westworld* involving the use of a Gatling gun. For music replay, we've hooked them up to a laptop PC running Tidal, and a Chord Electronics Hugo2. Who delivers the goods? ■

WWW.AUDEZE.COM/£400

Audeze SINE

Planar magnetic 'phones from the California corp with an eye on use home and away

AUDEZE'S SINE HEADPHONES

are the smallest of the models in our roundup and the set most intended to be an all-rounder you can also use on the move. Indeed, you can buy them with a Lightning cable that allows for direct connection to a newer model Apple device.

Despite this nod to the mobile generation, they boast impressive home potential, being built around a pair of planar magnetic drivers. These diaphragms, says Audeze, are thinner than a human hair and promise low distortion and improved resolution.

The enclosures sit on, rather than completely over, the ear, but thanks to

On-ear, not over-ear, cans

decent padding, the effect is comfortable with well-distributed weight. Build quality is of a very high standard. They feel solid, and look rather neat, if a bit angular. The supplied cable is 2.5m, so an extension may be needed for some listening setups.

The performance of the SINEs is dominated

by the sense of immediacy they bring to material. Little effects on board *Star Trek Beyond*'s USS Franklin are effortlessly

captured and the sheer intensity of the 'swarm' as it starts to detonate is tangible. Bass weight is less convincing, though – explosions lack the heft to sound truly thunderous; the Gatling gun in *Westworld* is similarly lacking in impact.

As a counter to this, dialogue remains clear and intelligible even when all hell is breaking loose and the SINEs excel at sounding spacious and three-dimensional.

These attributes convert well to music reproduction. Sweet timing and tonal accuracy ensures voices and instruments sound lifelike, while the top end never becomes hard or forward. All in, impressive headphones, but possibly a little lightweight for satisfying film use ■



HCC VERDICT



Audeze SINE

→ £400 → www.audeze.com

Audio Technica ATH-SR9

Attention to detail in driver design/installation reaps rewards with this well-balanced set

THE ATH-SR9s FROM Audio Technica are closely related to its DSR9 Bluetooth headphones, losing the wireless functionality but keeping the driver hardware and general shape.

These drivers are a pair of 45mm 'Tru Motion' units, coated in 'diamond-like carbon', that have an integrated iron yoke to extract the most piston force from each excursion. The drivers are then installed within their aluminium enclosures to Audio Technica's Midpoint Mount philosophy, which means uniform spacing behind and in front, promising 'smooth, natural audio reproduction across the entire frequency range.'

The cans' build quality is good rather than outstanding but, thanks to memory foam padding, they are wonderfully comfortable to wear for long periods. You are also supplied with two cables; a short one with remote and mic for



Standard and in-line cables are supplied

mobile use and a three-metre offering that's ideal for use in a home setting. The cable attaches to both left and right enclosures via bespoke connections, so don't lose it.

Worth the weight

In use, the effort that has gone into the driver design does seem to make a difference. There's more weight and impact to the performance of the SR9s than there

is with any other headphone in this roundup, and this lends the frenzied action of *Star Trek Beyond* a real energy and vigour. Bass elements are well integrated into the rest of the frequency range, so that thuds and bumps don't overwhelm dialogue or crisp effects.

And there's a genuine sense of space to the presentation. The Audio Technicas do a fine job conveying some of the vastness of outer space, and allows the wide bullet arc of *Westworld's* Gatling gun a little space to play.

With music, the SR9s lose out a touch to the sheer speed and resolution of Audeze and Oppo's planar designs, but that same spacious and bass-rich sound makes for a very easy and enjoyable listen.

A class act all round ■

HCC VERDICT ★★★★★

Audio Technica ATH-SR9
→ £400 → www.audio-technica.com

SNEXT-FINAL.COM/£330

Final Audio Design Sonorous III

Sizable over-ear designs that go to great lengths to open up their soundstage

FINAL AUDIO DESIGN is better known as a manufacturer of premium earphones, but the full-size Sonorous line probably deserves a wider audience.

The Sonorous III is one of its more affordable models, but still claims some interesting design features. Key amongst these is the idea of 'Balanced Air Movement' – the Sonorous IIIs employ a 50mm driver with an aperture that allows for improved airflow inside the housing. Similarly to Audio Technica's Midpoint Mount tech, the result, we're told, is headphones adept at generating a large and spacious soundstage with deep bass.

These are described as closed-back cans, but they leak by far the most noise of any of the models here. They are also a little on the heavy side (410g), and a little large, although this is less of a problem for home use than for use on the move. The supplied cable is 1.5m.

Our most affordable model is also the heaviest

Performance is subtly different to our other challengers but this isn't necessarily a bad thing. There's a slight lift to the upper registers that make these consistently lively and energetic-sounding headphones. Combined with decent bass extension, this makes for the most exciting performance with *Star Trek Beyond*. Meanwhile, our Gatling gun fires in an arc with the path of bullets well-imaged.

Yet with music, that upper lift, while something that can still work to the Sonorous III's advantage, needs care with matching equipment. Some material can sound hard and forward – good quality recordings keep the welcome sense of scale and excitement, though.

Not quite a slam dunk in both performance and design terms, but these are certainly good value and an entertaining listen ■



HCC VERDICT ★★★★★

Final Audio Design Sonorous III
→ £330 → snext-final.com

Oppo PM-3

These may be the brand's entry-level headphones, but there are no signs of cut corners

WHEN NOT MAKING feature-rich Blu-ray players, Oppo has carved out a strong reputation for headphones. The PM-3s are the most affordable of its trio of models, and the second pair tested here to employ planar magnetic drivers. Oppo makes no claims as to their thickness but does boast of plenty of R&D hours focused on crafting high sensitivity, and that by printing a voicecoil on both sides, greater control over the radiating area is achieved.

Build quality is excellent and thanks to deep padding, the PM-3s are super-comfortable to wear for lengthy blockbusters.

The 'phones are closed-back, and leak very little noise in use. Combined with sensible



The PM-3s use planar magnetic drivers

dimensions and a solid carry pouch, they will also work well on the move. One handy feature is the use of a single 3.5mm input for the cable, so even if the supplied 3m one isn't long enough for your system, replacing with a longer one will be easy.

While technically similar to Audeze's SINEs, sonic delivery is different. Some of the former's sheer speed is missing, but there is more weight and scale to the

performance – *Star Trek Beyond*'s set-pieces appear bigger and more potent. And detail

retrieval is also absolutely superb. The Oppos finds layers in the sound of the swarm ships massing for attack that other headphones miss. Likewise, when *Westworld*'s Gatling ceases firing, the detail of shell cases hitting the floor is succinctly reproduced. There isn't quite the sense of space that some rivals achieve, but placement and positioning of effects is consistently good.

Musically, the PM-3s are a strong but not flawless performer. The excellent tonality and detail is welcome, but they can lack some of the excitement and sparkle that rivals produce.

As a sensibly priced all-rounder though, the Oppos are very capable. And the price tag is very tempting ■

HCC VERDICT



Oppo PM-3

→ £350 → www.oppodigital.co.uk

Final standings

THERE ARE NO poor choices in this quartet of £300-£400 headphones, but there are some designs which offer more all-round ability and appeal. Audeze's SINEs are a fine portable option (and the Lightning cable version is a worthwhile option for Apple users), and a fast and dynamic performer. But for cinephiles, the lack of bass weight counts against them.

Final Audio Design's Sonorous IIIs and Oppo's PM-3s both manage to sound bigger and more convincing – and both demonstrate different strengths. The former are potent and exciting with movies, and succeed in helping you to forget you are wearing headphones... right up to the point where you try and wear them out and about. The Oppos, by contrast, find fine details that are missed by the others, and have a classy design and build. Not the most exciting listen, though.

This leaves the pricier Audio Technica ATH-SR9s in first place. Simply put, these deliver the most cinematic presentation of all the models with a space and impact that is consistently appealing. And when you move to music, they still sound punchy and engaging. Throw in high levels of comfort and a solid build and you have a worthy winner ■



Check out the website at
www.AV4Home.co.uk/hcc
Or Call Us On 01623 672073



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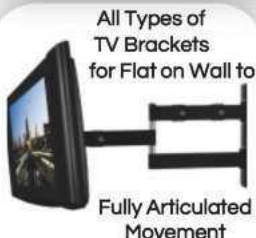
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**LONG-TERM TEST**

Sky Q

TIME ON TEST: 1.5 years **REVIEWER:** Mark Craven

WHEN SKY Q was launched at the beginning of 2016, it was the first hardware refresh from the satcaster in some years. This gained it plenty of attention, as did its unrivalled number of tuners, potential support for 4K content, wireless multiroom functionality and promise of slick usability. Eighteen months down the line, how successful has it been?

What's good about it?

In a word, 4K. Sky Q may have arrived in advance of any Ultra HD programming from the company, but it didn't take long to come good on its promise (4K material debuted in August 2016) and the content catalogue has been generally impressive. Sports – a key part of Sky's USP – has seen Premier League football joined by Test cricket and F1, while various US and Sky original dramas (*Jamestown*, *The Blacklist*, *The Young Pope* et al) are available to feast upon. Image quality is excellent, particularly the live sports coverage which can feel a world apart from its HD brethren.

Additionally, there are 4K movies, and the selection is solid, with a welcome tranche of back-catalogue titles, many of which are unavailable on UHD Blu-ray. Quality here varies depending on the state of the master, but most are surprisingly robust. If you fancy watching *RoboCop* or *The Guns of Navarone* with real pixel sharpness and can't wait for their respective studios to get their physical disc act

together, Sky Q is your saviour. Note that all Sky's 4K material is delivered in SDR, until HLG HDR is adopted at some point in the future.

As for the hardware, the multi-tuner nature of the Sky Q Silver is a killer feature, now allowing for up to six channels to be recorded simultaneously (or five if you want to keep the live channel preview in the EPG – users can choose within Sky's Preference settings). An argument against the need for such functionality is modern-day viewers leaning towards catch-up and on-demand content delivered via the 'net. This is a valid point, but the truth is I've never had one recording clash with Sky Q, and I've ceased to even check what series links, etc, I have set up. The result is click-happy freedom – especially as the 2TB HDD proves hard to fill (there's a 1TB box also available, but this isn't 4K compliant and has fewer tuners).

Usability is improved over the Sky+HD generation, with plenty of thumbnails luring you toward content and a fast browsing experience. It's glossy on top, yet delve deeper into the settings and simplified hi-res text menus make tweaking output resolution, lip sync, audio choice, etc, a breeze. The overall hardware design is better too. The Silver PVR is considerably slimmer and easier-on-the-eye than the Sky+HD box.

Another key plus point concerns multiroom. Previous Sky multiroom setups could leave buyers wondering where to run cable; Sky Q removes any physical connection to the dish for second-room viewing, using tuner-less Mini boxes paired to the Silver PVR (up to four, with three used simultaneously). This delivers complete access to VOD

AV INFO

PRODUCT:
4K-capable satellite/
IPTV PVR

POSITION:
Sky's premier
hardware package

PEERS:
Virgin Media TiVo V6;
BT TV Ultra HD

content and your recordings in addition to live TV. The multiscreen ethos extends to smart devices, and allows for some content to be downloaded for off-air viewing. All very impressive.

What's not so good about it?

Sky's marketing machine heavily pushed the interconnected slickness of a Sky Q multiroom/multi-device setup, and – while it's generally nifty – it's not without some flaws and duplicated features.

First up, using a Wi-Fi connection between a Silver PVR and Mini multiroom box isn't always foolproof. The convenience of not having to run additional cabling can't be understated, but over my time with Sky Q I have experienced a dropped connection between master and

'No other UK platform can compete with Sky Q when it comes to content (including 4K) and usability'

slave. Adjusting the auto standby feature on the Mini (switching it off, basically) did appear to improve matters, and over time it seems Sky has made efforts to make the connection more solid. The solution to a drop-out has never been more complex than a hard power off of the Sky Q Silver PVR, and reboot. Irritating, but not a calamity. A wired Ethernet connection is probably recommended wherever possible, though. At least Sky doesn't insist a Sky router is used.

Similarly, I've found the Sky Q app (which links a smart device to the Silver PVR) more prone to buffering/disconnection than the alternative, but not as feature-rich, Sky Go service.

I'm not entirely bowled over by the Silver's Q touchpad remote, either. It feels good in the hand and connects via Bluetooth, but navigating the UI menus via thumbstrokes without overshooting requires some skill, as does fast-forwarding/reversing through recordings. Other family members prefer to use the more traditional zapper bundled with the Mini.

2



SPECIFICATIONS

Sky Q Silver

HDD: Yes, 2TB **CATCHUP CHANNELS:** Yes, BBC iPlayer, ITV Hub, Sky One, Sky Atlantic, Sy-Fy and so on... **CONNECTIONS:** 1 x HDMI output (plus HDMI input, as yet unused); 1 x optical digital audio output; 1 x Ethernet; 2 x USB (for future use) **DIMENSIONS:** 232(w) x 155(h) x 34(d)mm **WEIGHT:** 1.7kg

FEATURES: Bluetooth and Apple AirPlay streaming; record six shows, watch a seventh live; MiMo dual-band Wi-Fi; 4K playback; Dolby Atmos/DD 5.1 audio output; Bluetooth Q Touch controller; wireless connection to Mini multiroom boxes; YouTube; Vevo; Sky Q app; download content to smart devices

With so much content available, Sky has worked hard to make it easy to find, but it can sometimes feel that avenues for search are coming at you from all angles – the Recommendations tab, the Continue watching function, dedicated screens for Sports, Cinema and Kids, voice search, QWERTY search, similar programme tabs... The most foolproof way of finding what you want is also the most prosaic. Hit the search button, start typing, and trawl through the text list.

On-demand is rife, but there's no Amazon Video or Netflix integration here. This is to be expected, but the online apps shelf still only features YouTube and Vevo more than a year on from opening.

Should I buy it?

This is the million-dollar question. Or rather, it's the 'how much can you afford each month and do you want a dish on your house?' question.

Sky has long presented itself as the premium subscription TV option, and uses its subscriber fees to buy in and create the programming that gives it its appeal – think Premier League football, blockbuster movies and US/UK scripted dramas. The thing is, if you're only interested in Sky content, Now TV offers a more financially palatable option, based around shorter one-month subscriptions, with no need for a dish or PVR hardware.

Sky Q, however, is where the corp does its best technical work and UI innovation. Now TV doesn't offer 4K playback or Dolby Atmos/surround sound audio, or the best user experience in the TV sphere. And it's streaming only – there's no hoarding of recorded material offered.

Sky's wealth of content does come at a cost, although the base-level package (the Original Bundle) is an enticing £22 per month for a minimum 18 months. Adding Multiscreen (which gives you a single Mini box) ups the monthly sub by £12.50, but reduces setup fees for the 2TB PVR from £200 to £65. It's also required to unlock 4K. Do that, and add all that lovely movies and sports content, and you'll see your sub heading over £50 a month.

It's a considerable investment, then (and probably won't turn the heads of Freeview users) but justifiable. It's also a no-brain upgrade for existing Sky+HD subscribers (that platform has now been phased out for new customers). At present, no other UK platform can compete when it comes to content (including 4K) or usability ■

1. The 4K-capable Silver PVR is supplied with a Bluetooth touch remote

2. Sky Q's UI offers plenty of avenues to hunt down content, plus hi-res artwork

HCC VERDICT



Sky Q

→ £Subscription (varies) → www.sky.com

WE SAY: 4K-capable, rich in usability and packed with premium content (if you're prepared to pay for it), Sky Q remains on the A-list of TV packages.

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WIN!

KEF R50 Dolby Atmos modules

THIS ISSUE WE'VE teamed up with our friends at KEF to give away a pair of the brand's R50 Dolby Atmos speaker modules – premium upfiring speakers that can add a new level of cinematic immersion to any home theatre system.

High-performance upgrade

The R50s are part of the brand's premium R Series speaker range, which also includes floorstander, standmount, centre channel and subwoofer models. While designed to be a perfect aesthetic match and sit snugly on top of other R Series speakers (the R50s measure 174mm high and 259mm deep), they can of course be integrated into any system, giving you a high-performance Dolby Atmos upgrade.

The speakers employ KEF's famed UniQ driver technology, in this instance a 5.25in aluminium midbass cone with a 1in aluminium dome tweeter (with 'Tangerine Waveguide') mounted at its centre. The benefits of such a design are improved time alignment and directivity, and in the Dolby-certified

upfiring R50, the UniQ driver is mounted at an angle to ensure reflected sound targets the listening position, creating a tangible height channel without the need for physical in-ceiling speakers and a complex installation.

They're therefore perfect for giving your home cinema an instant Dolby Atmos makeover, and are beautifully constructed and finished speakers too, rock-solid and boasting a high-quality piano gloss lacquer offset by the contrasting silver UniQ drivers. Grilles are

supplied, but you may find you end up leaving them off. As with all R Series models, colour options are Piano White or Piano Black – our comp winner can pick their preferred finish.

Sound all around

Reviewed previously in *HCC* #252 and awarded Best Buy status, the KEF R50s deliver a brilliant Atmos experience. Height layer effects benefit from the speaker's genuine full-range performance, guaranteeing fulsome bass, crisp highs and a rich mid-range between. And the R50s have an impressive reach, effortlessly crafting an encompassing Atmos canopy with precise

effects, be they used in front or surround channel placement.

Our reviewer's verdict says it all: 'Easily the best-sounding Dolby Atmos speaker I've heard, both in terms of 3D clarity and effective dispersion.'

To be in with a chance of getting your hands on a pair of KEF R50s, which usually retail for £600, simply answer the question below correctly – and good luck! ■



The R50 atop KEF's R700 floorstander (left) and R300 bookshelf

To have a chance of winning a pair of KEF R50s answer the following film-related brain-teaser:

Q: What was the first movie to be released on Blu-ray with a Dolby Atmos soundtrack?

A) TRANSFORMERS: AGE OF EXTINCTION B) THE TRANSPORTER C) TRANS-SIBERIAN

HOW TO ENTER: Simply email your answer (either A, B or C) to competitions@homecinemachoice.com with the subject line 'KEF R50'. You must include your name, address and contact telephone number.

THE CLOSING DATE for this competition is November 9, 2017. Please read the terms and conditions (opposite) before sending in your entry.

Competition rules

1. The first entry drawn at random will win the prize.
2. Only one entry per person/household; multiple entries will be discarded.
3. Entrants from the UK only.
4. Employees of MyTimeMedia Ltd and companies supplying competition prizes are not eligible to enter this competition.
5. Please ensure your personal details are correct, as they will be used to contact you if you win.
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7. The editor's decision is final.
8. Comp winners' info available upon request.
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Digital Copy

Mark Craven has his mind blown again by 8K TV, but can't see himself embracing the technology without also entering the arena of high-end gaming

WHILE PROWLING THE halls at IFA (see p20), I had one of those stop-and-stare moments. Often at these sorts of shows, such moments involve stopping and staring in horror (some of the woeful glasses-free 3D screens of a few years ago) or confusion ('smart' toothbrushes). This time, however, I paused and gaped in awe at an 8K TV.

The screen in question was on Hisense's booth, and I know the reason it looked so good (and why all 8K demos look so good, really) was the content chosen. Manufacturers simply don't demo 8K screens with blurry fight sequences from a Vin Diesel movie, or the dark trappings of a sci-fi horror. As Hisense did, they use sumptuous, nearly static travelogue footage, with rich, bright colours and azure skies that make you wish you lived abroad; in this instance, it was what I think I recognised as the burnt-orange rooftops of Florence, showing off their intricate brickwork and detailing on a 7,680 x 4,320 canvas.

The thing is, when you witness this sort of stuff, your first thought is to rush home and throw your current 4K display in a skip. But then you wander off to fight through the rest of the show, and realise that the other less technically superior TVs have more accommodating screen sizes, acceptable price tags, and benefit from plenty of native content to watch on them.

Will you play with me?

8K still seems a step too far. Yes, the display hardware is coming down the pipe (and nothing will stop it), but there simply isn't an 8K playing field for these TVs to strut their stuff on. Upscaled content will form much of their diet for years.

Future-gazers point to the HDMI 2.1 standard, announced earlier this year and being baked into

chipsets as we speak. This enables delivery of 8K resolution video. Yet it still doesn't solve the problem of where such video will come from, and whether it will be commercially viable to make it.

Broadcast TV? Not for a long while. Japan's NHK may well be planning to use the Tokyo 2020 Olympics as a launchpad, but in the UK the likes of ITV and BBC still air programmes in 1080i. There's plenty of work still to be done.

Streaming services? Perhaps, but, again, there's work to be done on compression technologies to enable end-users to stream 8K without their internet routers falling over, and – beyond that – the question of how much to charge for a premium format that a very small number of subscribers will want.

Blu-ray, then? No chance. I'm convinced that **4K discs are the last great hurrah of the film industry where physical media is concerned**. If anything, future developments will cater to wide colour and HDR variants rather than yet more pixels.

It's therefore gaming where 8K will probably find the most traction. Firstly, you don't need a video camera capable of capturing 8K video to make an 8K first-person-shooter or driving sim. You just need plenty of GPU horsepower. Secondly, there's already a marketplace of gaming enthusiasts with high-powered setups – garish PC towers kept ticking over by water cooling kits – who would be prepared to shell out for more hardware and souped-up titles.

I'm not one of those people, of course, so I'm yet to be convinced that 8K is for me. That doesn't mean that one day I probably won't end up owning an 8K TV, of course. But at the moment, I'm just happy to stop and stare ■

Have you had an 8K TV demonstration? What's your verdict? Let us know: email letters@homecinemachoice.com

Mark Craven is looking forward to explaining to his non-tech relatives what 8K is all about: 'If this piece of LEGO is standard-def...'





Film Fanatic

Anton van Beek reminisces about the days when vintage films were a familiar sight on UK TV, and celebrates an independent channel that is keeping the torch burning...

EVERY SO OFTEN a news story pops up online claiming that young people these days have no interest whatsoever in watching older films – especially black-and-white ones. Clearly, these sorts of sweeping statements fail to tell the whole story, but whatever veracity they may have can probably be attributed, in large part, to the fact that kids just aren't exposed to this sort of material any more.

Being born in the mid-1970s, I count myself lucky as one of the last generation who grew up with BBC reruns of black-and-white films as part of their regular viewing. For myself, and others of a similar age, Laurel & Hardy movies and 1940s serials like *King of the Rocket Men* and *Flash Gordon Conquers the Universe* were as much a part of my school holiday viewing as episodes of *Take Hart* and Hanna-Barbera's *Godzilla* cartoon.

It wasn't just school holiday mornings either. I still have fond memories of a themed run of vintage sci-fi films on BBC Two in 1983. It was here that I first encountered *The Creature from the Black Lagoon*, *Invasion of the Body Snatchers*, *This Island Earth*, *Forbidden Planet*, *It Came from Outer Space* and other classics. **And these films weren't hidden away in some late-night slot like something to be ashamed of, they were being shown in prime-time on Tuesday evenings.**

Later came *Moviedrome* (1988–2000) and *Moving Pictures* (1991–1996), two remarkable series that opened my eyes to an even wider world of cinema and shaped my appreciation of film history.

Now, while the number of TV channels available in the UK (even to those who don't go down a subscription service route) has increased greatly since those days, the venues for screening vintage films have dwindled away. These days, with so much

of the schedule taken up with episodes of *Flog It* and *Garden Rescue*, it seems that the only place BBC Two can find for black-and-white films is at 7am on Saturday mornings.

Talking about Talking Pictures

Thankfully, help is at hand in the form of Talking Pictures TV. Created when founders Sarah Cronin-Stanley and her father Noel Cronin needed a venue for their extensive catalogue of vintage British films, as the DVD market started shrinking and demand from broadcasters declined, this self-described 'independent archive film and television channel' launched in 2015 and is a godsend for movie buffs.

You can find it at Virgin 445, Freesat 306, Sky 343 and Freeview channel 81. It first came to my attention when, shortly after its launch, I was flicking through the Freeview EPG and stumbled across a screening of the '60s *Godzilla* rip-off *Gorgo*.

Since then I've enjoyed everything from obscure musicals to vintage crime thrillers, via celebrated classics like *The Innocents* (1961) and the crossing-dressing *Old Mother Riley* comedies (1936–1952). Recent acquisitions have seen an influx of more US films, too, with several Laurel & Hardy outings making a welcome appearance. But the fun doesn't stop there. Talking Pictures TV also mixes in to its schedule a selection of old TV dramas, like 1960s western *Stagecoach West*, and British documentary shorts (1940's *4 & 20 Fit Girls* anyone?).

Perhaps some of you reading this will now give the channel a look, if you haven't done so already. After all, I'd hate to think that film fans are missing out on its trove of archive treasures ■

Where do you turn to scratch your vintage cinema itch?
Let us know: email letters@homecinemachoice.com

Anton van Beek became so scared watching *It Came from Outer Space* on TV in 1983 that he had to get his mum to change the channel.





In The Mix

With HDR10+ seemingly destined to be added to the Ultra HD Blu-ray specification, **Jon Thompson** wonders why it wasn't included from day one

WHY WAS 4K Blu-ray launched with HDR10? And why, with a big fanfare, has it been surpassed a little over a year later by HDR10+? Two questions any AV fan may be asking right now.

Let's go back to 4K BD's inception. Dolby pushed a core technology of its own, Dolby Vision (DV), built upon tech developed originally by a company called Brightside Technologies, which Dolby had acquired. In the mid-2000s, Brightside had crafted an IMLED-LCD screen, an LCD with an array of individually modulated LEDs. Each LED had 256 brightness steps, giving it a peak brightness of 4,000 Nits. It was an HDR canvas before HDR even really existed.

The Blu-ray Disc Association (BDA), of which Samsung is a member, rejected having a licensed proprietary system at the core of 4K Blu-ray, insisting on a royalty-free system that became HDR10. What was proposed and developed, with Dolby, was a stripped-down version of DV using its public domain elements only. The clever part was that HDR10 could form the base layer to DV and the full 12-bit image could be reconstructed. The truly clever part of DV was its frame-by-frame image analysis, producing metadata so a PQ decoder could remap the image to specific display characteristics.

HDR10 sets an overall display metadata, such as peak brightness. Also, it's only 10-bit. So HDR10 was always at a disadvantage compared to Dolby Vision, which was added to the UHD Blu-ray spec as an additional format. It was only a matter of time before DV discs started to appear, although disc size seems to have scuppered this somewhat. You need a BD100 to really take advantage of DV. Squeezing it onto a BD66 gives you way too low a bit-rate.

Move forward, and Samsung has not sat still or accepted DV as a format for its hardware. Since the launch of HDR10, it's been working on its own

frame-analysed metadata system, creatively called HDR10+. Its colour space is defined as BT.2100, a 'tall and wide' version of BT.2020 – in other words it has a high dynamic range in its colour volume. HDR10+ uses Colour Transform in Scene-based Colour Volume Mapping, unlike DV which uses Colour Transform in Parametric Tone Mapping.

Confused? You will be. This actually makes the VHS vs Betamax format war look simple. That was black and white, whereas this HDR fracture is shades of grey. HDR10+ is probably a much better streaming format than DV, while DV really shines when you have high bit-rates such as UHD Blu-ray. So it's not a win for either in my mind.

So does HDR10+ solve some of the issues shown with HDR10? Yes and no. Most of the problems I've found are not caused by the format but rather the quality of display PQ decoders – i.e. bad maths. The other issue with HDR10+ is it's only 10-bit, which is simply not very forward-thinking. **I am sure we'll see HDR12+ at some point.**

Still, HDR10+ should have been launched from day one as we now have confusion like never before, with a wealth of HDR10 software on 4K Blu-ray seemingly outdated. We will no doubt get HDR10+ added to the UHD Blu-ray spec, mainly due to Samsung and Panasonic being major voices in the BDA.

You may now wish we never had HDR in the first place. Yet it was needed by UHD Blu-ray simply because an enormous amount of Hollywood content is not in 4K and would have to be upscaled to 4K. The re-grade into HDR is a bit of voodoo that makes it look like you are getting something unique, hiding the fact you may have just bought an upscaled version of a film you probably already own on BD... ■

*What's your experience of HDR so far?
Let us know: email letters@homecinemachoice.com*

When he's not in his screening room, **Jon Thompson** tweets about Hollywood gossip, movie-making and digital mastering at [@johnnyfocal](https://twitter.com/johnnyfocal)



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Feedback

Got an axe to grind? Need to comment on current tech? Want to share your knowledge with our readers? **Team HCC** is here to help

Is this big Sony right for me?

As an avid reader of your magazine for the past 15 years I have always used your reviews as a guide to my home cinema purchases. I am of the opinion that any home cinema setup requires the best screen that the budget allows.

I am in the market for a new TV and read with interest the high-end TV reviews in *HCC* #276. However, after reading the reviews I then turned to your gear guide section to look at your Top 10 TV recommendations and none of the TVs appear in this section.

This has left me somewhat confused. The Sony KD-75XE9405 appeals because of the size, as with this level of investment I want the best picture available with all sources coupled with as much future-proofing as possible (Dolby Vision/HLG, etc...).

I would welcome any help you could give me to assist me with my next TV purchase.
Toni

Mark Craven replies: Our gear guide is only updated the following issue, Toni, so any products that appear in the magazine won't also enter our Top 10s in the same issue.

That said, despite the KD-75XE9405 claiming the top spot in our high-end set roundup, it still hasn't made it in. That's not to say it's not a very accomplished (and well-priced, considering the size) TV. If you are looking for a set in excess of 65in – and don't fancy a pricier 77in OLED – it's highly recommended. A direct-lit LED set, it outguns flagship rivals that use less precise edge LED lighting engines.

As for future-proofing, Sony has pledged a firmware update for Dolby Vision support at some point this year (it may have happened by the time you read this), but new developments come thick and fast. News that Fox has signed up to support Samsung's rival dynamic HDR format (HDR10+) means that this bigscreen model isn't perhaps as futureproof as imagined. At present, though, there's no HDR10+ content available, so worrying about it isn't advised. Yet.

I have soooo much kit!

After reading Mark Craven's *Digital Copy* column [*HCC* #276], I started to feel a bit sorry for him. I too believe in passing the old equipment down to the next room when



Sony's KD-75XE9405: a 4K big-hitter

a new piece of AV is purchased. Although a pair of B&W 802s and a 123in projector screen may be hard to accommodate in the bedroom, unless I swap the bed for a sun lounger...

So I decided that all AV purchases for the bedroom had to be new rather than pass on

The stuff of legend!

You certainly missed out my favourite Arthurian film [*Collecting*, *HCC* #277] – MGM's *Knights of the Round Table*. Filmed in England and Ireland in 1953, it was MGM's first CinemaScope title. It starred Robert Taylor, Ava Gardner, Mel Ferrer and Stanley Baker. The photography was by Freddie (*Lawrence of Arabia*) Young, the costumes and sets were as you would expect from MGM, and it had a terrific score by Miklos (*Ben-Hur*) Rozsa. As this was an early 'Scope film it was also shot in the standard screen format at the same time, for cinemas that weren't fitted with new 'Scope screens and sound systems. Compared to this version, which is only available from Warner on DVD, other versions seem very dull indeed.
Ray Golbey

Anton van Beek replies: Thanks Ray! We've not seen *Knights of The Round Table* – maybe a BD will appear one day...



Ava Gardner and Robert Taylor in MGM's *Knights of the Round Table*

from my main system, but I could then pass on all replaced AV equipment in the bedroom to the guest room, which isn't used that often. However, I'm always reluctant to sell or dispose of any equipment that already resides in that room, hence this kit list which I hope you'll find amusing.

Bedroom system: Panasonic 55in plasma; Panasonic DMP-UB900 4K player; Yamaha RX-A3050 receiver; KEF R series 5.1.4 speaker array; Sky+HD; Apple TV.

Guest room system: Panasonic 42in plasma; Yamaha RX-V2065 receiver; Monitor Audio Bronze AV 5.1 speaker package; Arcam DVD player; Toshiba DVD players; Panasonic DVD recorder; Panasonic and Toshiba VCRs; Marantz CD recorder; Sony tape recorder.
Ade

Mark Craven replies: I'm envious of guests in your house Ade! Maybe I could pop round with my VHS collection.

As I tried to make clear in my column, the absence of AV hardware in my bedroom isn't necessarily my choice. It just seems that whatever I sneak in there can be found sitting on the landing carpet a few hours later.

I won't list the excess hardware currently residing in boxes in my loft, as I probably don't have the space. Suffice to say, I once found a pair of dipole speakers in my airing cupboard.

HDMI cable confusion

Congratulations on maintaining such a great and informative magazine that I look forward to reading every month.

The first part of my query is for Steve May. I am looking to purchase the new Acer V7850 UHD projector that was reviewed in *HCC* #276 as it is a living-room-friendly size at a sensible price. Looking at the review, I could not see what the 4K capabilities were; specifically whether it can handle 4K signals at 60fps as opposed to only 30fps. I will be feeding the projector with a 4K video signal from my Panasonic DMP-UB900 Ultra HD Blu-ray player and want to get the most from it.

This leads me onto the other frustration I've been having with retailers and manufacturers with labelling of HDMI cables. As I understand it an HDMI cable needs to meet v2.0 to deliver a 4K signal at 60fps; specifically it needs to be rated at 18Gbps to do this. Whereas a v1.4 HDMI cable can also deliver a 4K signal but at only 30fps. My bugbear is that the HDMI Forum issues the specification and version numbers whereas the manufacturers and retailers do not seem to know or indeed label the packaging with them. An example of this was at Maplins, where its website states that its Pro series HDMI cable is v2.0 and can deliver 18Gbps, yet when I looked at the package labelling it does not state HDMI version number and then claims that the maximum speed is 10.2Gbps.

★ Star Letter...

Digital movies – buyer beware!

As an avid Blu-ray buyer, I sometimes feel like a dinosaur. There's a certain breed of friend who will ask 'Why do you still buy those things?' and insist that the future lies in streaming.

To be honest, until recently, I thought they might be right. I'd been putting the brakes on my plastic-box purchasing habit and relying more and more on my Apple TV. Until, that is, something really annoying happened. I went to my Apple TV to watch a movie that I'd purchased last year and it came up as 'No Longer Available'. Hmmmm.

I double checked the online store and the movie was in fact still available, only now at half the original price. So I jumped on the phone to Apple Support and was told in no uncertain terms that I'd have to re-purchase the movie. The agent chirpily told me that Apple has no control over their 'content providers', who can remove or re-price their content at any time. And when a movie is re-priced, you have to re-purchase it to download it.

In short, if you don't download your purchase onto a hard drive soon after making it, you can't guarantee to be able to re-access it in the future and have no legal right to do so. The money you paid to 'purchase' may have become an over-priced 'rental' without you knowing it.

Maybe I'm naive and the last person to understand this. But after this experience I'm looking at my shelves of physical media with a warm, comforting glow, safe in the knowledge that I actually own those movies. No distant 'service provider' can sneakily pull them off my shelf without

telling me, like they can if they're 'purchased' from a streaming service.

Joseph Cornish

Mark Craven replies:

A read-through of some of the posts on Apple's own Communities pages suggests this isn't an isolated incident in your case. Of course, Apple has to comply with the terms of the licensing deals it strikes with content providers, and this is an issue across the streaming world – content comes, content goes, and there's nothing the end user can do about it. (I was halfway through watching all of the C4 comedy series *Fresh Meat* via Sky boxsets when it disappeared, only to pop up on Netflix).

In the future, make sure your downloaded Apple purchases are archived, although I get the impression you may not be purchasing many movies this way again...

Friends that tell you 'the future lies in streaming' probably don't have the same needs as you do. Stick to expanding – and getting the warm, comforting glow – from your Blu-ray collection.

Star letter-writer Joseph grabs the *Belle de Jour*: 50th Anniversary Blu-ray, courtesy of Studiocanal. Out now on DVD, Blu-ray and digital download, this new release of director Luis Buñuel's award-winning 1967 masterpiece starring Catherine Deneuve and Jean Sorel is based on a 4K restoration and comes complete with brand-new extra features and six exclusive art cards.



The shop assistant didn't know about different HDMI cable specifications and kept insisting that the cable can deliver 4K even while acknowledging the discrepancy between the website and the packaging. I told the shop assistant that the cable must be v1.4 as it can only deliver 10.2Gbps and thus can only deliver 4K at 30fps, but this fell on deaf ears. When I researched websites for HDMI cables from Chord, AudioQuest and WireWorld they did not label their cables with HDMI version numbers and thus I found it nigh on impossible to find the cable I was looking for. Is it not too much to ask that cable manufacturers label their products with the correct version number as they make good money from their customers and after all they are guided by the HDMI Forum in the first place?

Ian

Steve May replies: The Acer V7850 can handle 4K at 60fps, but there's some devil in the detail – with 8-bit signals this extends to 4:4:4 chroma sub-sampling, but only to 4:2:0 and 4:2:2 with 10-bit and 12-bit. So check your UB900's settings before feeding the Acer a 4K/60 source. Also, do note that due to a mix up, we listed the Acer in the original review as being 3D-capable (but not supplied with glasses). Actually, it won't play 3D – despite sporting a 3D key on the handset...

Alasdair Patrick, AudioQuest replies: The issue here, Ian, is the confusion between HDMI cables and the HDMI format. Strictly speaking, there is no such thing as a 2.0 HDMI cable. There are only four official categories of cable as far as HDMI LLC are concerned: Standard Speed, High Speed, Standard Speed with

Ethernet and High Speed with Ethernet (all AudioQuest HDMI cables are either Standard Speed with Ethernet or High Speed with Ethernet depending on length).

2.0 refers to the version of the HDMI format, not the cable. But a UHD Blu-ray player with a 2.0 output connected to a TV with a 2.0 input will work fine with any of our HDMI cables – as long as they're no longer than 8m – to deliver a full 4K/60 signal. So when people ask 'Are your HDMI cables 2.0, 2.0a, 2.0b' etc, the correct answer is, 'There's no such thing.'

At AudioQuest we don't list a Gbps rating on the packaging because every length is going to be different, and we don't want to have to make a dozen different boxes for every model. Suffice to say, in the current AudioQuest lineup, every HDMI cable up to 8m is fully compatible with 4K/60, and in the near future we will introduce active HDMI cables that will be able to provide 4K/60 in longer lengths (we don't yet know what the longest length will be, but it should be around 15m or so).

Bad Atmosphere...

I recently upgraded some kit and got 'the other half' on side! It was mainly the TV that myself and the kids had to persuade her into accepting, as we had a 37in TV and had seen a 55in model that looked good and was within budget, but seemed huge.

All was good, even if the whole living room needed reconfiguring around it. This had benefits, as my surrounds could be moved to a better position for an improved performance.

I was interested in Dolby Atmos and had heard a demo in a local store. As I also have quite a few BDs with Atmos encodes it got me thinking of the next upgrade, and, as it happens, my AV amp gave up, giving me the excuse to use the credit card. I also have four in-ceiling speakers sorted for the upgrade.

Guardians of the Galaxy Vol. 2 in 3D on Blu-ray turned up, paid for by my wife (we all like 3D). Then I noticed it was released in cinemas, and on 4K disc, with Dolby Atmos – but not on our 3D Blu-ray. To say I'm annoyed is an understatement. 3D is being



Deadpool: Popular with 4K fans in Leeds, apparently

ostracised, even though most blockbusters are done in 3D for cinema and are still being released on 3D BD. I have some non-3D movies in 4K but the 3D picture/sound is what we like.

Atmos isn't cheap or easy to install. Having overcome the practical issues we have now been shafted by a technical issue. Could you feedback to gear manufacturers to let them know that the way to promote the new isn't by degrading the old. After all, where better to have 3D sound than on a 3D movie?
Rob Baird

Anton van Beek replies: This isn't the fault of kit makers, it's a choice being made by studios – and, sadly, Disney has joined the likes of Fox and Sony in refusing to include Atmos tracks on 1080p discs in favour of making them exclusive to their 4K releases, presumably as a way of giving the format another premium selling point. Annoying, isn't it?

Why no UHD disc price drops?

Thanks for the great feature on the state of UHD Blu-ray so far in the UK [HCC #273]. I wonder, though, is it just me getting nervous about having bought yet another expensive new disc player (the Oppo UDP-203), and wondering if I'm wasting my money?

I bought a 3D BD player back in 2012 as this was going to be the next big thing and just four years later the last of the TV brands decided to abandon the format, leaving me to wonder what I'm going to play my 200 3D discs on when my LG 2016 OLED eventually dies on me.

Frankly, I don't find the difference between most UHD titles and the upscaled Blu-ray such a big difference; not enough to warrant the price hike. Friends think I've bought into 'the Emperor's new clothes', as they can't see the benefits of UHD until I point things out to them.

I've been waiting for discs to drop in price. When first announced UHD discs were going to be £20 for new release and £15 for back-catalogue titles, but when the format appeared to have a promising start (HMV in Leeds sold out of *Deadpool* on the first day) one or two chancers decided their new titles should be £25 and back-catalogue titles £20. If it's a choice for me between buying a 3D version for £18 or UHD for £20-£25 I'll always go for the more immersive 3D version. And it's difficult for me to justify paying £20 for a UHD disc when I can pick up the Blu-ray for £10 a couple of weeks later.

Price drops on 4K titles are practically nonexistent.
Ian Caslake



The Atmos mix for Guardians of the Galaxy: Vol 2 is 4K only

Anton van Beek replies: Outside of individual retailer promotions, I doubt we'll see a sudden drop in the RRP for Ultra HD Blu-rays. After all, one of the main reasons that Hollywood studios have been so keen to adopt the format is its position as a flagship product now that Blu-ray and DVD have been devalued (in their eyes) by constant discounting ■

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Please note: we cannot guarantee to print/answer all the letters we receive. Sorry.

WIN! Great Blu-rays up for grabs...

Just email your answer to Competitions@homecinemachoice.com to be in with a chance to win

Wonder Woman

Bring the wonder home when the year's biggest superhero blockbuster, Warner Bros. and DC Entertainment's Summer smash *Wonder Woman*, explodes onto 4K UHD, Blu-ray™, 3D Blu-ray™ and DVD on October 9. To celebrate the release, we have five copies of the *Wonder Woman* Blu-ray™ to give away, courtesy of Warner Bros. Home Entertainment.

Question:

What actress stars as Wonder Woman in the feature film?

Answer:

- A) Gal Gadot B) Robin Wright
C) Connie Nielsen

Email your answer with '*Wonder Woman*' as the subject heading – and don't forget to include your postal address!



Fast & Furious 8

Already available to own on Digital, nitro-fueled blockbuster sequel *Fast & Furious 8* races onto 4K Ultra HD, Blu-ray™, DVD and On Demand

on October 16. And thanks to Universal Pictures (UK) we've got five copies of the *Fast & Furious 8* Blu-ray up for grabs!

Question:

Which action star plays Dominic Toretto in the *Fast & Furious* films?

Answer:

- A) Vin Diesel B) Dwayne Johnson
C) Jason Statham

Email your answer with '*Fast & Furious 8*' as the subject heading – and don't forget to include your postal address!



Ash vs Evil Dead: The Complete Second Season

Get ready for plenty of gore and gags as the second season of the acclaimed horror series slices its way onto Blu-ray and DVD on October 23.

To mark the release, we've teamed up with Twentieth Century Fox Home Entertainment and have five *Ash vs Evil Dead: The Complete Second Season* Blu-rays to be won!

Question:

Who directed the original *Evil Dead* movies?

Answer:

- A) Sam Raimi B) John Carpenter
C) Wes Craven

Email your answer with '*Ash vs Evil Dead*' as the subject heading – and don't forget to include your postal address!



The Howling

Joe Dante's groundbreaking 1981 darkly comic horror classic *The Howling* makes its UK Blu-ray debut (alongside brand-new DVD and Digital Download releases) on October 9, courtesy of

Studiocanal. If you fancy winning one of five *The Howling* Blu-rays, simply answer the following question correctly...

Question:

Who wrote the original 1977 horror novel that Joe Dante's film is based on?

Answer:

- A) Gary Brandner B) Stephen King
C) James Herbert

Email your answer with '*The Howling*' as the subject heading – and don't forget to include your postal address!

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8. Comp winners' info available on request.
9. The closing date is November 9, 2017.

Certified: AV-Holic!

HCC reader Les is the proud owner of this stunning-looking dedicated cinema room. He has 4K and Dolby Atmos on tap, and a brilliant hiding place for his Blu-ray collection...



Welcome to the AV-Holics Hall of Fame – introduce yourself!

I'm Les Jacobs, aged 60. I'm a semi-retired Photographer/Retoucher.

System kit-list:

For my display I have a Samsung UE78KS9500 TV. My speakers are Acoustic Energy EVO 1s, Acoustic Energy Compact 1s

and four Monitor Audio CT-180s for Dolby Atmos/DTS:X. There are two Jamo subwoofers – one is placed at the back of the room. These are hooked up to a Denon AVR-X6300H receiver. The Blu-ray player is an Oppo UDP-203; I also have a US Sony Blu-ray player as I buy some Blu-ray discs while I am working in the States.

What was the last thing you added to the setup?

The second Jamo woofer.

Are you thinking of upgrading anything soon?

My system has only recently been installed, but at the moment I am looking at the Kaleidescape Disc Vault.

Whereabouts in your house is the cinema room? Was this space previously used for anything else?

It's an extension to the house which was built four years ago as a space for a photographic

The cinema runs a 7.2.4 speaker system, with in-ceiling models from Monitor Audio



The focal point is a 78in Samsung 4K/HDR TV



studio. As I am now semi-retired, I decided to treat myself to a home cinema. The room measures approximately nine metres by six metres, so it is a good-sized space.

Did you get a professional company in to do the work? Were you involved yourself?

I arranged for the same local company that decorated the initial studio space, called ProPaint Spraying, to help me design the room, and they carried out the work on the new decoration. The owner is also a keen AV enthusiast, which was a plus.

They also fitted the in-ceiling Atmos speakers, but I installed the cabling and AV equipment.

How long did the project take to complete?

The project took five months from initial design to the finished room.

Why did you opt for a 78in TV rather than a PJ and screen?

The reason I decided to go for a TV rather than a projector and screen is that either side of the TV are a door and window, which I did not want to block or brick up. And the roof line slopes down at the TV end, so trying to fix a retractable screen for me was not an option.

I also have a friend who has a projector system, and found that when his children were upstairs running about, the picture would shake slightly! These were some of the factors that swayed my decision to go for a largescreen TV.

What's your favourite bit of kit?

The four Dolby Atmos speakers really add to the whole system.

What difference has adding the second subwoofer made?

Because of the size of the room, I thought >



Previously, this 9m x 6m space was used as our AV-Holic's photography studio. Then he decided to 'treat' himself to a cinema room



As the makeover progresses, a central plinth has been installed – the eventual spot for two rows of electric reclining seats



Gold wall columns and a rich red ceiling are in place, all part of delivering the owner's wish for a room that feels 'warm, inviting and a cinematic experience'



Les uses sarcophagi to store his Blu-ray collection...

that by adding a second subwoofer it would perhaps help smooth the bass out. I haven't tested it with a meter, but it sounds good to me!

What movies/discs do you use to show off the setup?

Deep Water Horizon and *Star Trek Into Darkness*.

And what are your Top 5 favourite flicks?

The Bourne Trilogy, *Star Trek* and *Deep Water Horizon*.

Do you stream movies/TV from Netflix/Amazon/Sky etc?

We stream TV from Amazon, but we like to use physical media because both sound and vision are superior. I do have the full Sky Q package also.

Does the setup get a lot of use?

Yes, it is used every day for regular TV and movie nights.

What do family and friends think of the cinema?

Everybody loves it, though my 88-year-old father just likes playing with the seat...

We love the décor. Why did you go for this design rather than a traditional black box-style room?

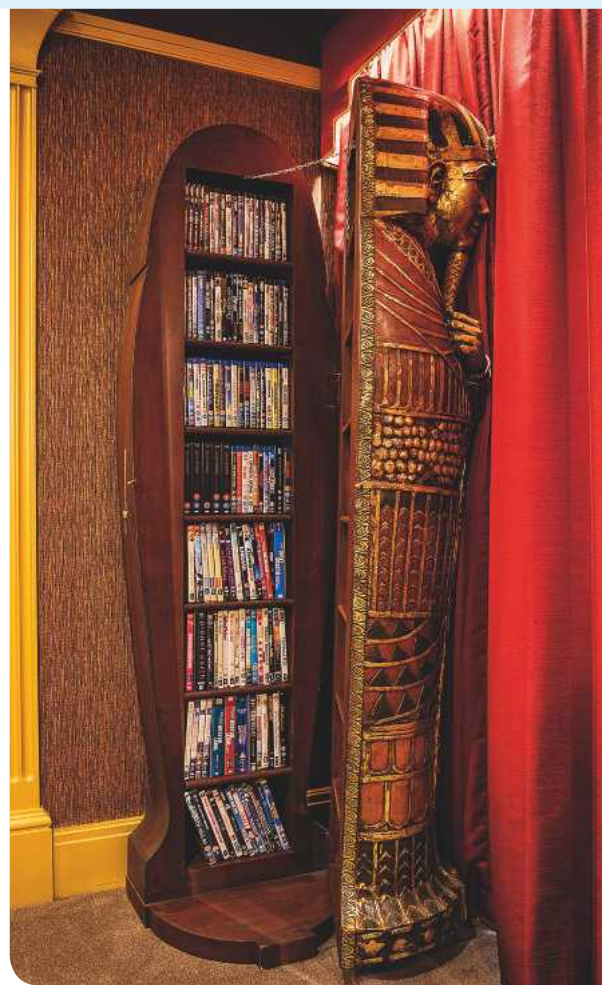
The décor is amazing. From the beginning I wanted to create a more theatrical feeling, rather than a blank black box. I wanted it to feel warm, inviting and offer a cinematic experience. The comments so far from family and friends have been great. They all love it as much as I do.

What make/model are the cinema chairs?

The cinema chairs were ordered from a company called Delux Deco, which is based in Windsor. The design is called Universal in Chocolate leather. They are fully electric recliners, with cooling cup holders and a built-in massage function.

Lastly, where did you get the sarcophagi from?

The sarcophagi hold some of my Blu-ray collection. I purchased them from an exotic place beginning with the letter E. I know you are all thinking of Egypt, but you'd be wrong – I bought them from a store in Epping in Essex. My disc collection is arranged around the room from A to Z, using the two sarcophagi and the



leather trunk style-chests at the rear. If you watch the movie *National Treasure*, towards the end when they enter the 'treasure room', there is one of our sarcophagi in the background. It also happens to be one of my favourite movies.

The two movie poster frames at the rear of the room were purchased from Canada. They are backlit with LEDs, sized for American 40in x 27in one-sheet double-sided film posters, and are easily changed.

What I would like to do next is add a breakfast table and bar chairs at the rear of the back row of seating, so that people can have a meal and a drink and still watch a movie ■

Share your cinema system in the mag!

If you want to be in **HCC**, you'll need to send us some hi-res images of your cinema room. Here are a few tips...

1. Go big. Set your camera to take images at the largest possible size, and at the highest resolution. Don't worry about cropping or resizing – we will make them print-ready.
2. Get in focus. Make sure your photos are as sharp and clear as possible. If you have one, use a tripod, or place your camera on a flat, steady surface and take pictures on a delay. The sharper they are, the bigger we can print them.
3. Let some light in. While we tend to watch

movies in the dark, our cinema systems look their best when they are lit. If you can shoot with natural daylight, do so. If your room doesn't get a lot of light (a garage conversion, for instance) then switch on whatever lights are fitted. Avoid using flash wherever possible.

4. Be thorough. Send photos of as much of the room as possible. Images of both the front and back of the room, the kit rack, speakers, seating, disc shelf, movie poster art... The more the merrier.

5. Don't be shy. Send a picture of yourself!
6. Show us more. Got pictures of your room before it was a cinema? Or snaps of work being done? We love to see these, too.

Now what?

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PLAYBACK

→ **SOFTWARE HIGHLIGHTS** **THE MUMMY** Can Tom Cruise save us from a new universe of monsters? **BLADE RUNNER** Harrison Ford goes hunting replicants in 4K **COLOSSAL** Quirky comedy wreaks havoc on South Korea **BAYWATCH** Dwayne Johnson channels his 'Inner Hoff' for this bigscreen remake **ASH VS EVIL DEAD** Cult TV horror series returns **& MORE!**

No man's land

Wonder Woman → Warner Bros. → All-region BD

The Amazon princess takes to the battlefields of World War I in her first solo movie. Find out if *Wonder Woman* can give the DC Extended Universe a jump-start as we take the Blu-ray for a spin on p96.

HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★☆☆☆
Dire	★☆☆☆☆

All prices quoted are approximate and may have changed

Ahmanet takes time out from destroying London to try and top up her tan



Who needs their mummy?

Not this reboot, which sidelines its villain in favour of routine Tom Cruise action scenes



Cruise in control?

→ THE MUMMY

When the ancient, soul-sucking mummy of Princess Ahmanet (Sofia Boutella) is freed from her tomb in Iraq and unleashed in present-day England, the only people that stand in her way are treasure-hunting US soldier Nick Morton (Tom Cruise) and archaeologist Jennifer Halsey (Annabelle Wallis). But Ahmanet has her own plan for Nick, one that could release an even greater evil on the world...

The past couple of decades have seen Universal try again and again to revitalise its lineup of classic monsters for modern cinemagoers. Which is why this latest reboot of *The Mummy* is positioned as the first instalment in the 'Dark Universe', the studio's attempt at creating a shared cinematic world for its monsters to inhabit (films *Bride of Frankenstein*, *Creature from the Black Lagoon*, *Invisible Man* and *Van Helsing* are all apparently waiting in the wings in various states of development).

However, there's a rather obvious flaw in Universal's grand plan – this latest version of *The Mummy* isn't very good.

While Sophia Boutella makes for a striking villain, she doesn't get all that much to do in a film that is far more concerned with giving Tom Cruise plenty of *Mission: Impossible*-style action beats, and laying the groundwork for its shared universe concept via the introduction of Henry Jekyll (Russell Crowe) and his top-secret monster hunting organisation Prodigium. The film is also

hamstrung by a tonal imbalance that shifts uneasily from creepy horror to goofball action-adventure (which does not suit Cruise at all).

It all equates to a muddled blockbuster that seems to have no reason to exist beyond setting up further films. Those future flicks are going to have to be a lot better than this if Universal's Dark Universe isn't going to collapse.

Picture: Shot primarily on 35mm film, *The Mummy*'s Full HD 2.40:1 transfer has an organic appearance that balances a light grained texture with meticulous levels of picture detail. Saturated colours abound, blacks are thrillingly inky and there are no technical imperfections to be seen. Excellent.

Audio: The Dolby Atmos mix does just what you'd expect from a modern blockbuster. Directionality

is pervasive, bass is powerful and big set-pieces like the air strike (Chapter 2), plane crash (Chapter 6) and sandstorm (Chapter 14) make strong use of the height channels to send information whizzing above your head.

Extras: Cast members Boutella, Wallis and Jake Johnson join director Alex Kurtzman for a commentary on the film itself, while Tom Cruise sits down with the director for a surprisingly in-depth 20-minute chat. Also included are seven *Making of...* featurettes, four deleted scenes and an animated short.



HCC VERDICT

The Mummy

→ Universal Pictures → All-region BD → £25

WE SAY: Universal has put together an impressive hi-def package for this messy monster movie reboot.

Movie: ★★☆☆☆

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

My Life as a Courgette

Thunderbird Releasing → Region B BD £22



It lasts only a little over an hour, but this French stop-motion 'toon about a young boy

adapting to life at a foster home after he accidentally kills his alcoholic mother packs more emotional resonance than most movies twice as long. As well as offering both French and English versions of the film (with corresponding DTS-HD 5.1 soundtracks and credits), Thunderbird's Blu-ray serves up beautifully detailed 1.85:1 visuals that highlight the workmanship that went into crafting the stylised clay characters. Extras include an 18-min *Making of...* and two amusing animation tests/promos.



The Boy and the Beast

Studiocanal → Region B BD £23



The latest hit from Mamoru Hosoda (who previously brought us 2006's *The Girl Who Leapt Through Time*,

2009's *Summer Wars* and 2012's *Wolf Children*) tells the very Ghibli-esque tale of a young runaway who chances upon a hidden city of humanoid beasts, and is taken on as a pupil by the gruff warrior Kumatetsu. While completely devoid of extras, this UK hi-def release still pleases with its colourful, cleanly delineated 1.78:1-framed 1080p encode and bass-rich DTS-HD MA 5.1 soundtracks (in a choice of Japanese or English).



Guardians

Sony Pictures → All-region BD £20



This Russian superhero flick bombed on its native release and is unlikely to find an audience beyond bad movie lovers on these shores. More *Fantastic Four* than *Avengers*

in cinematic terms, the film brings together four lame heroes (Magneto, but with rocks; ninja Flash, the Incredible Bear and Invisible hottie) to battle what looks like an eight-foot, body-building toddler. Sony UK's barebones Blu-ray sports a cool and crisp 2.40:1 Full HD encode that can't help but draw attention to the cheapo VFX, while the Russian and English DTS-HD MA 5.1 mixes sound surprisingly weedy at times.



Hathaway's monster hangover

Character study meets creature-feature in this one-of-a-kind genre mashup

→ COLOSSAL

When the boyfriend of unemployed writer Gloria (Anne Hathaway) finally gets tired of her feckless lifestyle and kicks her out of his Manhattan pad, she finds herself with nowhere left to go apart from back to her small hometown. There she reconnects with childhood friend Oscar (Jason Sudeikis) and starts working in the bar that he owns, which only serves to exacerbate her drinking problem.

Things start to get really weird when a giant reptilian monster appears in South Korea, leaving a trail of death and destruction in its wake. Before long Gloria comes to the startling realisation that the monster is somehow tied to her own behaviour and that she can control it. But that still doesn't explain the massive robot that has also popped up on the other side of the world...

Throughout the history of cinema, filmmakers have used giant monsters as a way of personifying a nebulous largescale threat – radiation, pollution and the like – in order to make it more tangible and allow the characters to battle them. The genius of Nacho 'Timecrimes' Vigalondo's *Colossal* is that it twists this idea around so that its giant creatures represent the characters' own inner demons.

The result is an utterly unique genre mashup, a quirky comedy-drama that manages to dig deep into the emotional turmoil its characters are going through, while also giving us scenes of a monster and robot coming to blows. Really, what more could you possibly ask for?

Picture: *Colossal* strides onto BD with an appealing, if far from glossy, 2.40:1-framed Full HD encode. Like



so many indie films before it, the bulk of the film opts for a fairly autumnal palette full of subdued colours, deep blacks and rather pasty skin tones. However, the bright neon signs that illuminate the dark streets of Seoul show that the encode can deliver something much richer when required. And while it rarely dazzles, this remains a solid 1080p picture.

Audio: As you might expect, the majority of the film's DTS-HD MA 5.1 soundtrack is concerned with low-key atmospherics and dialogue – none of which will even remotely test your setup. Yet the monster sequences open things up considerably, with effective localised effects around the speaker array and a suitably hefty amount of low-end grunt whenever the beasts are on the move.

Extras: Nothing, not even the solitary deleted scene that graced the US Blu-ray, is housed here. A shame, as this is exactly the sort of film that leaves you keen to hear from those involved in its creation.



HCC VERDICT

Colossal

→ Entertainment in Video
→ Region B BD → £25

WE SAY: A smart premise executed brilliantly. Only the complete lack of extras brings any disappointment.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★



Some kind of wonderful

Hailed as a major turning point for action movies, this woman-led blockbuster is also a real treat for home cinema aficionados...



DEMO SCREEN...

Wonder Woman

Time code: 074.01 – 081.15



Over the top: As Diana makes her way across No Man's Land, the repeated use of slow-motion draws your eye to the incredible amount of dirt and shrapnel flying all around her.



Warrior princess: Battling her way through the occupied town, Diana kicks, punches and slashes German soldiers – each blow underscored by the potent dynamics of the sound design.



All tied up: Our heroine takes the fight to the streets, tossing an armoured car through the air and lassoing the enemy, while bullets whistle all around you in the Dolby Atmos soundtrack.



Bringing the house down: To neutralise a German sniper holed up in a church steeple, Diana launches herself at the building, bringing it crashing down to earth with a satisfying rumble of bass.

→ WONDER WOMAN

When American intelligence officer Steve Trevor (Chris Pine) crashes near the island of Themyscira, hidden home to the Amazonian race of warrior women, he is rescued by Diana (Gal Gadot), demigod daughter of Zeus and Amazon queen Hippolyta (Connie Nielsen). Learning of the war that currently ravages the outside world, Diana is sure that it can only be the work of Ares, God of War, and vows to accompany Steve back to 'Man's World' and restore peace.

Saying that *Wonder Woman* is the best DC Extended Universe film to date isn't that big a deal. What is exciting is just how greatly director Patty Jenkins' comic book blockbuster exceeds the series' earlier films, finally bringing DC's cinematic output to a level that can give its arch rival Marvel Studios a run for its money.

Following the excitement that surrounded the character's scene-stealing final act appearance in Zack Snyder's *Batman vs Superman: Dawn of Justice*, Jenkins' film dials back the clock to 1918 for a wartime origin story. Some might see the setup as a lazy imitation of *Captain America: The First Avenger*, but in truth it's an inspired move that returns the character to her four-colour roots and heightens the fish-out-of-water elements that come from watching this Amazonian warrior trying to navigate (or, more frequently, trample over) the strict societal barriers of the time that curtailed women's freedom.

Despite only having one prior feature film directing credit on her CV (2003's true-life serial killer drama *Monster*), Patty Jenkins is an excellent pick as the film's director. She's just as comfortable with action scenes as she is with the more intimate character moments, and here inspired use of slow-mo cameras is the closest anybody has yet come to bringing comic book splash panels to life on the silver screen.

Wonder Woman also benefits from a shift in tone away from the earlier DC movies. While the darkness is still present, it's lightened by some well-judged moments of humour and the effortless charisma of Gadot and love interest Pine.

One flaw is that – following all of the brilliant build up – like so many superhero films before it this origin story climaxes with its protagonist having to repeatedly punch a big CGI creation. Having given us so many neat twists to the format elsewhere, it's disappointing to see the filmmakers take this route. The finale prioritises repetitive and empty spectacle over something as emotionally-charged as the rest of the film. But even this can't stop *Wonder Woman* from being... wonderful.

Picture: Anybody expecting *Wonder*



Director Patty Jenkins has already signed on to helm a sequel

Woman's AVC 2.40:1 Full HD encode to adhere to the rather muted palette favoured by *Batman vs Superman...* and *Suicide Squad* are in for a surprise – at least as far as the film's first act is concerned. Filling the frame with golden beaches, turquoise seas and azure skies, the opening Themyscira scenes present cinema-hedz with beautifully saturated colours and exceptional clarity that draws out masses of fine detail.

As the action moves to 'Man's World' in the film's second act, so the look switches to the high-contrast, orange-and-blue colour grading that has become the default look for the DC Extended Universe. At the same time the grain (which was finely delineated in the earlier, brighter scenes) becomes much coarser. The knock-on of this is a slight drop in detail and some obviously crushed blacks that rob the encode of a perfect score.

Audio: The BD's Dolby Atmos soundtrack truly is a source of wonder. Following a slightly laid-back start, it proves its mettle with the showdown between the Amazons and Germans in Chapter 2. By the time Diana arrives in London (Chapter 5) and hears the 'strange thunder' (Chapter 7), the mix is consistently playing across all available channels for dramatic and dynamic effect. However, the track also impresses with its quiet precision, as evidenced by the sound of General Ludendorff running his fingers down Doctor Maru's ceramic face mask in Chapter 5. Make no mistake, this is a superb soundmix.

Extras: The Blu-ray also houses an interesting selection of bonus bits. These range from the expected behind-the-scenes featurettes to a look at how *Wonder Woman* compares to *Batman* and *Superman*. There is also a charming video exploring how the character has inspired people over the years. Finally, *Epilogue: Etta's Secret Mission* is essentially the film's post-credit scene, providing another tease of future developments.



Wonder Woman is the highest-grossing superhero origin film of all time!



HCC VERDICT

Wonder Woman

→ Warner Bros. → All-region BD
→ £25

WE SAY: The iconic superheroine's superb solo outing dazzles with its stylish visuals and explosive audio.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

Arcade Action

Bigscreen home entertainment isn't just about movies anymore. **Rik Henderson** checks out a videogame vying for time on your home cinema system...



Destiny 2

Bungie/Activision → PlayStation 4, Xbox One, Windows PC → £55

There are few movie sequels that are said to be better than the first. *The Empire Strikes Back* and *The Godfather Part II* spring to mind, but many would be hard stretched to name others. However, most gaming sequels are better than their predecessors.

Destiny 2 certainly adheres to that rule. It is a better game than the first *Destiny* in many ways – graphically, structurally and so on. But perhaps the most welcome improvement is in accessibility.

Like its predecessor, *Destiny 2* is a persistently online shooter, with players populating the landscapes simultaneously and the 10-hour-plus story mode tweaked to be as enjoyable on your own as it is with co-op friends. There are also plenty of side missions and public events to be enjoyed.

A new feature also adds 'guided games', so you can tackle some of the previously impenetrable strike missions, where multiple players are needed, with the help of *Destiny* veterans. Afterwards, should you feel the need to hook up with a clan for future sorties, you could get an invite from them.

Destiny 2 really impresses with its graphical presentation too. Using checkboard upscaling on PS4 Pro, it provides sharp 4K visuals for the vast majority of the time. You might notice some jagged edges and artefacts, mainly due to the graphical processes used by developer Bungie, but they are rare and you'll be too agog at the superb sci-fi scapes on offer to really care.

The standard PS4 and Xbox One versions look stunning too, with a slight softening of visuals for the 1080p presentations. The best version of them all is for PC – a first for the franchise. It has superb native 4K graphics if your machine is up to the task. *Destiny 2* also boasts a fantastic soundtrack that perfectly fits this *Star Wars*-esque space opera epic. The audio shines on a multichannel system, with great spatial effects that work well in underground, cavernous levels.



Kill, Baby... Kill!

Arrow Video → Region B BD & R2 DVD
£25



Evil children are a staple of the horror genre and the murderous ghost haunting Mario Bava's 1966 Gothic chiller *Kill, Baby... Kill!* (which has gone by a number of names, including *Operation Fear* and *Don't Walk in the Park*) is one of the creepiest. Based on a 2K restoration of an original 35mm internegative, this BD's AVC 1.85:1 1080p encode masterfully reproduces the film's bold mix of chiaroscuro lighting and rich colours. Pick of the insightful extras are a commentary from Bava expert Tim Lucas and a video essay by critic Kat Ellinger.



Don't Torture a Duckling

Arrow Video → Region A/B BD & R1/R2 DVD → £25



Lucio Fulci's 1972 flick about a series of child murders in a small Italian village may not be one of his better known films, but it is one of his best. As the three pages of restoration notes in the accompanying booklet make clear, the condition of the source elements (primarily the original 2-perf Techniscope negative and a 4-perf 35mm dupe) were far from optimal, but Arrow has still assembled a pleasingly consistent, not to mention robust, 2.35:1 Full HD presentation. As well as a choice of Italian and English mono soundtracks, the disc hosts some excellent extras including a commentary and interviews.



Raw

Universal Pictures → All-region BD
£15 (HMV exclusive)



As shocking as it is stylish, this gory French horror stars Garance Marillier as a vegetarian student who develops a taste for flesh of all kinds after being made to eat raw rabbit kidney during a hazing ritual at veterinary school. What could have been little more than a tawdry campus cannibal chiller is transformed into something far smarter and symbolically rich by writer-director Julia Ducournau. While this UK Blu-ray is disappointingly devoid of extras, it does at least score well with its boldly saturated 2.40:1 visuals and aggressive DTS-HD MA 5.1 sonics.





Dwayne could always improvise when he left his barbell at home



A sight for shore eyes?

It may not be the funniest film you'll ever see, but *Baywatch* is a real stunner on Blu-ray

→ BAYWATCH: EXTENDED EDITION

Given the appalling reception it received from critics when it belly-flopped into cinemas this Summer, you'd be forgiven for thinking that this bigscreen *Baywatch* remake must surely rank among the worst films ever made. You'd be wrong. True, it's not some kind of underrated masterpiece, but providing you're in the mood for some deliberately crude, cheesy and over-the-top hijinks, peppered with knowing winks to the original TV series, then *Baywatch* is more than capable of tickling your funnybone.

It also helps that the cast clearly had a great time making the film and that infectious sense of fun is right there onscreen for all to see, helping to keep things moving when the plot (yes, there is one, involving a drug-smuggling hotel owner) begins to drag around the midway point.

Meanwhile, director Seth 'Horrible Bosses' Gordon strings together several solid action scenes and does



Well, it wouldn't be *Baywatch* without some slow-motion running...



HCC VERDICT

Baywatch: Extended Edition

→ Universal Pictures → All-region BD
→ £25

WE SAY: A fun way to spend a couple of hours and a Blu-ray encode that's as good-looking as the film's cast.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

a commendable job of countering any accusations of sexism (of the sort that dogged the original TV series) by ensuring that there is just as much man-flesh on display here (if not more, given two of the film's more graphic gags...).

Baywatch is fun, and sometimes that's enough. In fact, we'd happily see this film's cast (Dwayne 'The Rock' Johnson, Zac Efron, Alexandra Daddario) return for a bigscreen spoof of *Baywatch Nights*. A pity, then, that this will no doubt never happen.

Picture: Given its sun-drench setting, it should come as no surprise to learn that *Baywatch* hits Blu-ray with a bright and vibrant AVC 2.40:1 1080p encode. Sharp, clean and as well-defined as The Rock's abs, the Full HD imagery is never less than flawless in its handling of the intricate textures inherent in the film's digital photography. Meanwhile, primary colours pack a vibrancy that seems to leap off the screen at times. Black levels are also exemplary. Lovely stuff.

Audio: The Dolby Atmos soundtrack isn't the most involving you'll ever hear, but is still capable of stepping up its game and making the most of its height layer when needed (as with the helicopter and fireworks during the finale). Away from this, there's good use of the surrounds for ambient effect, joined by well-balanced dialogue and music.

Extras: In addition to both Theatrical (116-minute) and Extended (121-minute) cuts of the movie, the Blu-ray houses three featurettes (*Meet the Lifeguards*, *Continuing the Legacy* and *Stunts & Training*), plus six deleted/extended scenes.





Big film gets a bumper Blu-ray

You'd have to be mad to fail to appreciate the effort that has gone into this release

→ IT'S A MAD, MAD, MAD, MAD WORLD

When the dying driver of a crashed car tells the five motorists who stopped to help him about \$350,000 in stolen cash that is buried near the Mexican border, it kicks off a madcap dash across the US by any means possible to recover the money.

'Bloated' is probably the best word to describe director Stanley Kramer's 1963 epic comedy. From its cast of screen legends to its running time (202 minutes in its original Cinerama release, 164 minutes in its shorter general release), there's nothing small about *It's a Mad, Mad, Mad, Mad World* – not even the title. Unfortunately, the rather episodic structure and never-ending parade of cameos conspire to make it feel more like an extended variety show than a coherent narrative. That said, it's still very funny.

Picture: The first platter in Criterion's double-disc release houses the 164-minute 'General Release Version'. Newly restored and scanned at 4K from a combination of the original 65mm camera negative and a 65mm interpositive, the result is as good as anybody could conceivably hope for. Not only is the 2.76:1-framed Ultra Panavision presentation in immaculate condition, but colour density, contrast, detailing and clarity are all excellent.

As mentioned above, a much longer version of the film was originally given a Cinerama roadshow release. While this version is now believed lost, film historians have managed to track down around 20 minutes of missing footage, which has been used to create the 198-minute 'Extended Version' that appears on the second disc in this set.



However, it's worth noting that this extra material comes in a variety of forms – from foreign prints with burnt-in subtitles to still photos with accompanying audio and even faded 70mm trims with colour taken from cropped standard-definition footage (leaving black-and-white borders on the image). As you'd expect, this has a pretty deleterious effect on the overall quality of this second HD presentation.

Audio: Both versions of the film feature a remixed DTS-HD MA 5.1 soundtrack. While there's not much to savour in the way of rear effects, the precision and dynamic range inherent in what transpires to be a surprisingly complex mix is wonderful. Ernest Gold's playful score is also reproduced beautifully.

Extras: The two-disc set is packed with goodies. In addition to various archival promos and interviews, Criterion has thrown in reunion footage, a fact-packed commentary, an exploration of the film's sound design and a look at the restoration process.



Mickey Rooney, Phil Silvers, Buddy Hackett, Sid Caesar, Milton Berle, Ethel Merman and Dorothy Provine are just a few of the film's all-star cast

HCC VERDICT

It's a Mad, Mad, Mad, Mad World

→ The Criterion Collection
→ Region B BD → £28

WE SAY: A suitably expansive double-disc outing for this epic comedy classic.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

Journey to the Centre of the Earth

Eureka → Region B BD
£15



Giant lizards! Atlantis! A subterranean sea! Grumpy James Mason! Pat Boone crooning!

This 1959 Hollywood adaptation of Jules Verne's classic sci-fi novel has it all. It's just a pity that it takes so long to really get going. Still, fans of this retro romp will undoubtedly get a kick out of this budget Blu-ray, which serves up a knockout 1080p CinemaScope image based on a 4K restoration, partnered with a DTS-HD MA 5.1 soundtrack derived from the film's original four-track stereo mix. Extras include a chat-track, isolated score and an interview with critic Kim Newman.



The Public Enemy: Premium Collection

Warner Bros. → All-region BD & R2 DVD
£15 (HMV exclusive)



The film that turned James Cagney into one of Hollywood's biggest stars, this influential 1931 classic follows

the rise and fall of Cagney's charismatic and dangerous gangster during the Prohibition years. Given the film's age, Warner Bros. deserves huge kudos for the work it has put into ensuring that this 1080p presentation looks as good as it does. Entertaining bonuses include a commentary and retrospective featurette, plus archival cartoons, shorts, trailers and newsreel footage that could have played with the film in cinemas.



The Reckoning

Indicator → All-region BD & R2 DVD
£23



Sitting on a crossover point between the social drama of the 'Angry Young Man' films of the 1960s and the

brutal realism of the violent crime dramas of the 1970s, director Jack Gold's bitter story of class and identity is something of an overlooked gem. Nicol Williamson stars as a ruthless London businessman who heads back to his family home in Liverpool to investigate his father's death. Gold's uncompromising film makes its Blu-ray debut with an authentically drab, yet fairly well defined Full HD encode. Extras include a trio of interviews, the trailer, an image gallery and a booklet.



Dunkirk

Studiocanal → Region B BD
£23



Long before Christopher Nolan gave audiences his take on Operation Dynamo (1958, to be exact), Leslie Norman

directed this ambitious and affecting account that splits its 136-minute running time between a British soldier in France (John Mills) and a reporter (Bernard Lee) who ends up assisting the evacuation. Sourced from a 2K restoration, *Dunkirk*'s 1.66:1-framed 1080p encode still exhibits some minor wear and tear, but ultimately holds up well. John Mills's on-set home movie footage, 1940 Ealing short *Young Veteran*, vintage newsreel and a chat with actor Sean Barrett are also included.





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TV foursome share the success

For all their individual highs and lows, these superheroes shine brightest when they get together



→ THE DC TV UNIVERSE

While DC Entertainment has struggled to get its shared 'Extended Universe' up and running on the bigscreen, it has fared far better on the smallscreen with US TV network The CW's so-called Arrowverse – home to *Arrow*, *The Flash*, *Legends of Tomorrow* and (having jumped from CBS to The CW between its first and second seasons) *Supergirl*.

After undergoing a gradual drop in quality since the heights of its second year, the fifth season of *Arrow* returns to form with a back-to-basics approach that sees new villain Prometheus forcing Oliver Queen (Stephen Amell) and the ever-expanding Team Arrow to confront the consequences of their past actions.

Now in its third year, *The Flash* continues to be a celebration of all manner of Silver Age comic book lunacy. Unfortunately, it's married to a season-long arc that wallows in too much misery and feels over-familiar as it pits Barry Allen (Grant Gustin) and chums against yet another evil speedster.

Despite an intriguing setup, ensemble show *Legends of Tomorrow* failed to make the most of its time travel setup first time out. This latest season sees the production team iron out most of the kinks, ditching the elements that didn't work and foregrounding those that did, while bringing in a group of villains worthy of the team's attention.

Despite essentially losing one of its MVPs (Calista Flockhart), *Supergirl*'s second season still has much



Between time travel and exploring the multiverse, these shows leave no comic book stone unturned...

to enjoy, including some surprisingly topical plot lines about (alien) refugees and appearances from the title character's more famous cousin.

The real highlight for Arrowverse fans, however, is the epic three-part *Invasion!* crossover that throws heroes from all four shows together. Add to that a delightful episode of *The Flash* that traps him and Supergirl in a musical adventure and the benefits of a shared universe are plain to see.

Picture: The four shows conform to a fairly uniform visual style that naturally leads to very similar 1.78:1-framed 1080p Blu-ray encodes.

Colour reproduction is generally excellent and every shot is awash with finely wrought details. It's just a shame that cramming six episodes onto most discs across the range leaves the encodes a little bit-starved and prone to occasional banding and compression artefacts.

Audio: As befits a quartet of superhero TV series, the DTS-HD MA 5.1 soundtracks that accompany these releases are well-stocked with dynamic surround effects and impactful bass. And yet, no matter how chaotic the soundscape gets, dialogue and music are always clearly prioritised.

Extras: All four sets feature deleted scenes, a 2016 Comic-Con panel and a couple of behind-the-scenes featurettes. *Supergirl* also boasts a chat-track on one episode and an interview with director Kevin Smith and producer Andrew Kreisberg, while *The Flash* adds three featurettes about the making of the musical episode and another short interview video.

HCC VERDICT

Arrow: The Complete Fifth Season

→ Warner Bros. → All-region BD
→ £40

WE SAY: *Arrow*'s strongest season in years makes for an heroic BD release.

Movie: ★★★★★
Picture: ★★★★★
Audio: ★★★★★
Extras: ★★★★★

OVERALL: ★★★★★

HCC VERDICT

The Flash: The Complete Third Season

→ Warner Bros. → All-region BD
→ £40

WE SAY: A solid HD outing bolstered by a strong array of bonus goodies.

Movie: ★★★★★
Picture: ★★★★★
Audio: ★★★★★
Extras: ★★★★★

OVERALL: ★★★★★

HCC VERDICT

Legends of Tomorrow: The Complete Second Season

→ Warner Bros. → All-region BD
→ £40

WE SAY: DC's most improved show is only let down by its modest extras.

Movie: ★★★★★
Picture: ★★★★★
Audio: ★★★★★
Extras: ★★★★★

OVERALL: ★★★★★

HCC VERDICT

Supergirl: The Complete Second Season

→ Warner Bros. → All-region BD
→ £40

WE SAY: There's no sophomore slump for his hi-def heroine.

Movie: ★★★★★
Picture: ★★★★★
Audio: ★★★★★
Extras: ★★★★★

OVERALL: ★★★★★

Gotham: Complete Third Season

Warner Bros. → All-region BD
£40



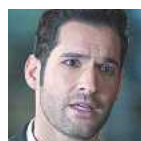
Supposed protagonists Bruce Wayne and James Gordon have always been the weakest part of this Batman prequel

series, which is why a re-energised focus on Penguin, Riddler and other demented villains makes *Gotham's* third season the best yet. As with the two preceding sets, this latest four-disc Blu-ray release comes loaded with striking 1.78:1 1080p encodes that never falter at delivering deep blacks, rich colours and fine textures. Assertive DTS-HD MA 5.1 soundtracks provide fun aural accompaniment. Extras include three featurettes and a Comic-Con panel.



Lucifer: The Complete Second Season

Warner Bros. → R2 DVD
£30



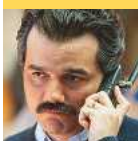
In any other cop show, the police procedural aspects would be the most important part – but other cop shows

don't have the devil himself (Tom Ellis) helping solve crimes. Building on the strengths of the first series, this second 18-episode run continues to foreground the characters above all else – and the results are brilliantly demented. Despite some compression artefacts (what do you expect with six episodes per DVD?) this three-disc set looks pretty good. Deleted scenes, a featurette about L.A., a gag reel and a Comic-Con panel are also included.



Narcos: Season Two

Arrow Films → Region B BD
£25



Anybody with even the most basic awareness of the Pablo Escobar story will know the climax that this second

season of the Netflix drama builds up to. However, as somebody somewhere once said, the journey is just as important as the destination – and the trip this show takes you on is as gripping as they get. While this Blu-ray set's AV credentials are very strong, dialogue is sometimes buried a little lower than we'd like in the otherwise impressive DTS-HD MA 5.1 mixes. Best of the extras are a chat-track on the final episode and a 20-minute look back at the making of the season.



American Horror Story: Roanoke

Twentieth Century Fox → All-region BD
£40



This sixth season positions itself as a documentary series recounting the spooky happenings at a North

Carolina farmhouse before shaking things up and taking both the 'real' survivors and the actors who played them back there for a reality TV follow-up. It's heady stuff and easily the show's most successful season in years. While there are some source-related deficiencies in the later handycam material, the Blu-ray's picture and (especially) audio quality are very good. Extras are limited to a cast and crew Q&A and promo spots.



'That is horrible... and also awesome'

Cult horror series looks and sounds the business on Blu-ray, providing you've the stomach for it

→ ASH VS EVIL DEAD: THE COMPLETE SECOND SEASON

When it comes to the *Evil Dead* franchise, there's nothing that Bruce Campbell won't put himself through. Over the course of three films and two seasons of this belated TV spin-off, the actor has been bruised and abused on a regular basis.

However, nothing comes even remotely close to the unforgettable scene in this season's second episode (*The Morgue*), which finds Campbell's buffoonish hero Ash battling the intestines of a possessed corpse, only to be slowly dragged head-first up the cadaver's backside, while all manner of disgusting, gloopy, bodily fluids drip down his face.

If that doesn't sound like something you'd care to see, then *Ash vs Evil Dead* isn't for you. But for those who love the franchise and its leading man, it's just one of the 'splat-stick' highlights in a wonderful second season that also gives fans Ash's crotchety dad (Lee Majors!), a demonic car that would give Christine a run for her money, and the return of a couple of familiar faces from the first two *Evil Dead* films.

Our only niggle is that some well-publicised behind-the-scenes changes have resulted in a slightly unsatisfying season finale that fails to pay off on several of the ideas that were clearly being set up throughout earlier episodes.

Picture: Spreading its 10 half-hour episodes equally across two BD50 platters, this digitally-shot series looks very impressive on Blu-ray. Framed at 1.78:1, the Full HD imagery is ultra-sharp and packed with fine



details, while colours (especially those all-too frequent splashes of red) are suitably intense. Despite the presence of obvious noise in some darker shots, black levels also hold true for the most part.

Audio: The show's Dolby TrueHD 7.1 tracks are an absolute treat, with the use of surround effects easily matching the onscreen mayhem. Movement around the soundstage is fluid and there's a terrific precision to the mix that allows the listener to pick out every bullet impact during a burst of gunfire. Underscoring all of this is a weighty LFE channel that lets you feel every punch and kick.

Extras: Six of the ten episodes feature cast and crew commentaries that are packed with trivia, on-set anecdotes and general goofing around. The second disc also houses a quick behind-the-scenes vignette for each episode, plus eight further sub-three-minute EPK featurettes and a promo teaser.



Evil comes in all shapes and sizes when you're dealing with Deadites...

HCC VERDICT

Ash vs Evil Dead: The Complete Second Season

→ Twentieth Century Fox
→ All-region BD → £28

WE SAY: Excellent picture and sound, plus fun commentaries, make this splatterfest a must for fans.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★



'Are you sure you won't have a pint of Guinness?'



'The tortoise lays on its back...'

Cult sci-fi's 4K HDR makeover is the real deal – and there's Atmos audio to enjoy too



Ford will appear as Deckard again in sequel flick *Blade Runner 2049*

→ **BLADE RUNNER: THE FINAL CUT**

Just in time for the cinema release of its long-awaited sequel, Ridley Scott's Philip K. Dick adaptation starring Harrison Ford gets a 4K HDR outing. Now 35 years old, *Blade Runner* has lost none of its charm, even if its attempts at mixing film noir tropes with dystopian sci-fi don't always come off smoothly. Icy cool, extravagantly designed and with a spine-tingling Vangelis soundtrack, it's a film no collection should be without.

Picture: For this 2.40:1 Ultra HD presentation, Warner Bros has used the 4K digital intermediate, approved by Ridley Scott, first struck ten years ago for the film's debut Blu-ray release, and then given it an HDR regrade. And, overall, image quality is delightful, making for a marked improvement.

Set design, VFX and the fabulous modelwork are some of the more obvious beneficiaries of the uptick in sheer pixel info, while HDR proves a good foil for Scott's visual ambitions, used here not only to pick out the movie's various neon flourishes and bursts of flame,

but to draw out greater subtlety from its darkest corners and interiors.

It's not, however, the pristine visuals some may hanker for. Film grain is heavy at times, and the mix of elements, resolution scans (some material done at 8K) and film stocks employed in stitching the Final Cut together can result in shifts in image quality. Detail levels can falter in some shots; one of Sean Young is even out of focus. But these are source issues rather than an encoding problem.

Audio: Pleasingly, the UHD platter houses a brand-new Dolby Atmos remix, replacing the 5.1 TrueHD mix of before. And, although the soundmix can feel stark on occasion, it's a worthwhile upgrade, bringing greater clarity and depth to environments and pushing the electronic score to new, room-filling depths.

Extras: Compared to the comprehensive 30th Anniversary Collector's Edition BD, this 4K release pales in terms of extra features. All you get are the 2007 introduction to the Final Cut by Scott and a trio of commentary tracks.

If you want everything else, you'll have to pick up the £50 UHD Special Edition boxset. As well as the 4K version of the Final Cut, this also houses 1080p presentations of the Theatrical, International, Director's Cut and Workprint versions, plus the *Dangerous Days* doc and other goodies.

HCC VERDICT

Blade Runner: The Final Cut

→ Warner Bros. → Ultra HD BD & All-region BD → £28

WE SAY: This movie has never looked or sounded better, but jettisoning quality extras is annoying.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★





Great Scott, it looks superb!

Sci-fi-horror dazzles on 4K Blu-ray, but loses some key extras along the way

→ PROMETHEUS

Ridley Scott's 2012 return to the *Alien* universe is perhaps the ultimate Marmite movie. And as it happens, Team HCC count themselves among the group who love this big-budget blockbuster for its uncompromising combination of visual splendour, philosophical musings and Lovecraftian horror.

Picture: Regardless of where you sit with regards to *Prometheus*' virtues as a piece of storytelling, there's no denying that it is consistently a feast for the eye – and that feast is elevated to banquet status by the film's 4K Blu-ray release.

The addition of high dynamic range and wide colour gamut technologies to its striking sets and consistently imaginative VFX is a revelation. Shots showing the crew exploring the dark passages of the alien 'citadel' while wearing brightly lit helmets, for instance, are some of the most striking HDR images yet. The extra light range is also particularly effective at enhancing the Engineer's other-worldly, porcelain-like skin.

Colours are richer and more dynamic. The planet's strange light feels more alien, while computer displays such as the 'wakened' cockpit of the alien vessel and a holographic message to the crew look mouthwateringly intense.

Detail levels are only slightly improved over the 1080p BD. There is some improvement, though, and at least there's no increase in grain or other noise. Audio: This 4K disc only features the same 7.1-channel DTS-HD MA mix that appeared on the original Blu-ray release. Yet while a film as rich in detail and scale as *Prometheus* would undoubtedly



Who are you calling a big head?

HCC VERDICT

Prometheus

→ Twentieth Century Fox → Ultra HD BD & All-region BD → £30

WE SAY: This *Alien* spin-off looks beautiful in 4K HDR – but some will think 3D is still the way to watch...

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

have benefited from some DTS:X or Dolby Atmos precision, the provided mix still does a strong job of underlining the shifting scale of the unusually varied locations, and delivers a fine sense of immersion underlined by lots of subtle placement effects.

Extras: Fox's 4K platter carries over the two commentary tracks from the previous Blu-ray, while the accompanying 1080p disc also adds four 'mini movie' sidebars to the film and 14 deleted scenes. However, the omission of the dedicated extras disc from the previous *3-Disc Collector's Edition* Blu-ray means that you don't get that release's outstanding two-hour-plus *Furious Gods* documentary. There's no 3D version, either. Pah.

Smurfs: The Lost Village

Sony Pictures → Ultra HD BD & All-region BD → £30



The major attraction for grown-ups of this 4K BD animation is the Atmos soundmix, which knows how to raise a smile through its cartoonish action and

incessant FX placement. Image quality is less of a draw, lacking the depth and nuance of other animated 4K titles such as *Despicable Me* or *The LEGO Batman Movie*. As for the feature itself, we're in straightforward Smurfs territory here, ditching the live-action elements of *Smurfs* and *Smurfs 2* for an all-'toon franchise reboot. So if you're a Smurfs purist – or a four-year-old – you may just enjoy it.

★★★★★

The Boss Baby

DreamWorks/Twentieth Century Fox → Ultra HD BD & Region A/B BD → £30



This 2160p outing for DreamWorks' middling CG animation about sibling rivalry offers a fairly subtle picture

upgrade over the 1080p incarnation we looked at in HCC #275. Detailing is slightly more nuanced and colours have a little more pop to them, but there's nothing to get too excited about. Where the Ultra HD platter does score better is on the audio side, which sees the Full HD Blu-ray's already rather lively DTS-HD MA 7.1 mix swapped out for an even more dynamic and expansive Dolby Atmos soundtrack. Extras are all relegated to the accompanying Blu-ray.

★★★★★

Life

Sony Pictures → Ultra HD BD & All-region BD → £30



Despite being shot in various different resolutions (ranging from 3.4K to 6.5K) before being finished

as a 2K digital intermediate, this Ultra HD version of *Life* makes for a surprisingly cohesive 4K viewing experience. It's also a clear improvement on the regular BD, with the mix of increased detailing and HDR highlights giving the rather drab space station interiors a more tactile appearance and a greater sense of depth. The 4K platter also receives an Atmos upgrade that makes extremely effective use of the height channels to enhance the film's more chaotic sequences.

★★★★★



King of the 4K monster movies?

Universal isn't monkeying around with its UHD reissue of Peter Jackson's epic remake

→ KING KONG

This 4K release of *King Kong* carries two versions of director Peter Jackson's monkey movie: the theatrical release, and an extended cut. At 188 minutes and 200 minutes respectively they remind us of Jackson's difficulties with editing himself – and the shorter version is notably superior. However, it is beautifully shot, and features some strikingly intense set-pieces. The film also builds a genuine emotional connection with the big ape.

Picture: Jackson's eye for period detail is greatly enhanced on 4K Blu-ray. Colour grading throughout is stellar, combining dazzling splashes of neon and artificial lighting during the night-time New York climax with exquisitely subtle and refined skin tones and flora and fauna detailing.

Black levels are also richer and deeper than they were on the Blu-ray, while also containing more subtle info. Greatly enhanced light peaks sit at the opposite end of the luminance spectrum, making the image feel much more life-like and open. These highlights don't look forced, either; so ingrained is the HDR 'mark up', in fact, that even *Vastatosaurus rex* CGI skin benefits, helping the dinos look more realistic and three-dimensional.

Detail levels are also substantially increased for the 4K release, despite having to squeeze such a long film onto a single 100GB platter. Pixel finery is especially noticeable during the opening New York montage and in Skull Island's jungles.

The Extended Cut's extra footage has been graded well for HDR and 4K, fitting seamlessly alongside the original material.



Jackson's giant ape has never looked better

Audio: Joining *King Kong*'s visual upgrade is a new DTS:X soundtrack (the Full HD Blu-ray supports 5.1 DTS-HD MA). The DTS:X mix doesn't deliver an explosive improvement over the already potent 5.1 version, perhaps, but you do feel a more complete sense of immersion in Jackson's exquisitely crafted world.

Extras: Unlike the *Prometheus* 4K release (p105), *King Kong* includes the dedicated special features disc provided with the recent Ultimate Edition BD. The result is an outstanding set of extras, from the informative Jackson/Philippa Boyens commentary through to over 13 hours(!) of behind-the-scenes documentaries and footage.

HCC VERDICT

King Kong

→ Universal Pictures → Ultra HD BD & All-region BD → £40

WE SAY: This superb Ultra HD release combines stunning pictures with a suitably gargantuan set of extras.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

Ghost in the Shell

Paramount/Universal Pictures
Ultra HD BD & All-region BD → £40



This enjoyable, if flawed, live-action update of the popular Japanese anime makes a smooth transition to Ultra HD Blu-ray. Shot at 5K,

but with the ever-present visual effects finished at 2K, the upscaled 2160p HEVC encode isn't quite the eye-popping 4K feast you may have been expecting, but there's a definite rise in detailing. Use of HDR is even more pervasive, with almost eye-scorchingly bright highlights present in explosions and the like. The UHD disc benefits from the same, wonderfully immersive, Dolby Atmos soundtrack as the 1080p BD.

Van Helsing

Universal Pictures → Ultra HD BD & All-region BD → £40



Having struck gold with his 1999 reboot of *The Mummy*, Universal let Stephen Sommers loose on the rest of

its classic monsters with this ludicrous 2004 blockbuster. The very definition of a guilty pleasure, *Van Helsing* makes for a solid 4K release despite being a 2K upconvert. Sure, the VFX look worse than ever, but the enhanced colour range and HDR highlights make the 2160p imagery really pop. The audio has also been overhauled, with a new DTS:X remix giving the track a more expansive feel. Extras are plentiful, but are restricted to the regular Blu-ray.

Dracula Untold

Universal Pictures → Ultra HD BD & All-region BD → £40



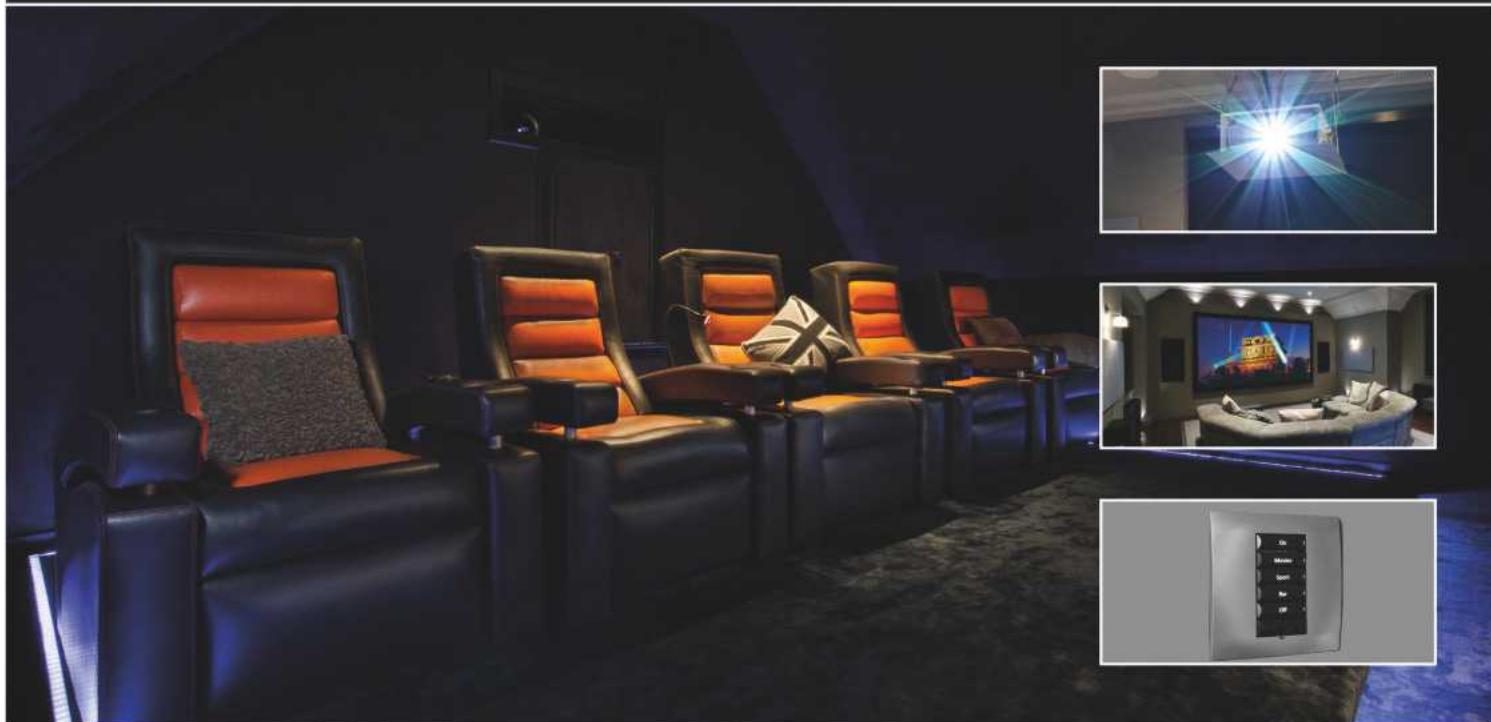
Yet another misstep on the way to Universal creating its 'Dark Universe', this 2014 origin story attempts

to transform the bloodsucker into some sort of tragic hero. Generic, uninspired and utterly toothless, you can't help but feel that *Dracula Untold* should have remained that way. This Ultra HD encode (upscaled from a 2K DI) doesn't represent a massive upgrade over the Full HD version, but colours are richer and there's more shadow detail to be found in the gloomy photography. But neither that nor a dynamic new DTS:X remix can stop *Dracula Untold* from sucking.



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Tom Cruise

Over a 35-year-career, Tom Cruise has raced jets, battled aliens, played pool and stopped future crimes. **Team HCC** gives new flick *The Mummy* a swerve in favour of ten of his better efforts...

TOP GUN

Cruise graduated to Hollywood's A-list through this enjoyably uncomplicated fighter pilot yarn helmed by the late, great Tony Scott. Does its gung-ho attitude hide a subtle critique of US Cold War foreign policy in the 1980s? No. But it moves through its rise-fall-rise narrative with the grace of an F-15, and Cruise excels as lead character Maverick, finely treading the line between charm and smugness.

Get it: *Top Gun* debuted on UK Blu-ray in 2009, and more recently (2016) had a 30th Anniversary release. Between times, Paramount issued a 3D version, after the film played in that format for a short time in cinemas. Perhaps surprisingly, this doesn't feel like a shameless cash-in. On the contrary, it's excitingly immersive. Can we now have a 4K re-issue with 3D audio?



TOP PICK



JACK REACHER

Many fans of Lee Child's series of novels cried foul at the famously short actor taking the role of towering hero Jack Reacher, but it matters not a jot. This traditional-feeling thriller (2012) hits all the right notes, mixing brains with brawn and letting Werner Herzog chew scenery as its villain. It's a shame that the 2016 sequel lacks its verve.

Get it: Cruise and director Christopher McQuarrie team up for a chat-track on a Blu-ray that excels with image and sound quality.



RISKY BUSINESS

The film that really launched Cruise to stardom, this 1983 satire finds him playing a high school student who hooks up with a sexy prostitute (Rebecca De Mornay) and, while his parents are out of town, turns the family home into a brothel in order to make some money. Like you do.

Get it: Interesting extras (including an alternate ending) and solid AV make the Blu-ray well worth a look.



COLLATERAL

Cruise goes against the grain to play a baddie in Michael Mann's 2004 hitman thriller, pitting his wits against Jamie Foxx's cab driver during a tense night in Los Angeles. All Mann's trademarks are here – digital cinematography, moodily lit architecture, skilful criminals – and Cruise doesn't seem out of place at all.

Get it: *Collateral*'s rock-solid BD release packs a commentary track from Mann that's essential listening. The hi-def image can look noisy at times – a by-product of the director's shooting ethos.



THE COLOR OF MONEY

Martin Scorsese's 1986 stylish follow-up to 1961's *The Hustler* sees former pool hustler 'Fast' Eddie Felson (Paul Newman) encountering a charismatic young player (Tom Cruise) and taking him on the road in order to teach him that 'pool excellence is not about excellent pool.'

Get it: Ever get the feeling you've been hustled? Fans can choose between a dismal barebones DVD or a similarly barebones Blu-ray that offers surprisingly few visual upgrades on its SD predecessor.



EYES WIDE SHUT

Stanley Kubrick's last film as director (he died before its premiere) was overshadowed by its casting of real-life couple Cruise and Nicole Kidman, and received a muted response from audiences perhaps expecting something a little more conventional than this erotic, mysterious drama. Give it a whirl, though – this is yet another example of the master at work; hypnotic and immaculately lensed.

Get it: The 2007 Blu-ray's VC-1 encode shows plenty of room for improvement. As well as the standalone release, the disc has been included in several boxsets.



MISSION: IMPOSSIBLE

Pick this, or any of the other five *MI* movies Cruise has starred in so far (okay, the second one is a bit of a dud), for a fun night in. Taking the much-loved '60s/'70s TV series as a jumping off point, the franchise has upped the action ante, building upon its leading man's penchant for crazy stunts, and become a US counterpart to the James Bond series.

Get it: Yet another Tom Cruise flick in desperate need of being revisited on Blu-ray, *Mission: Impossible* suffers from both lacklustre MPEG-2 visuals and vanilla Dolby Digital 5.1 sonics.



MINORITY REPORT

Cruise came late to the sci-fi genre but did so in style in 2002, starring in this Philip K Dick adaptation with Steven Spielberg calling the action. The man-on-the-run-trying-to-prove-his-innocence narrative may feel well worn, but otherwise this is über-fresh, and there's a welcome focus on trying to imagine a future year (2054) that's slightly plausible.

Get it: Seven years after it made its debut, 20th Century Fox's UK *Minority Report* Blu-ray still impresses – and these days can be picked up for under a tenner.



RAIN MAN

Barry Levinson's touching road-trip movie about an autistic savant (Dustin Hoffman) and his wheeler-dealing brother (Tom Cruise) not only nabbed four Oscars – including Best Picture and Best Actor (Hoffman) – but also ended up as 1988's highest grossing film around the world, beating the likes of *Die Hard*, *Twins* and *Coming to America*.

Get it: Ignore the original 2011 Blu-ray and pick up the 2014 remastered '25th Anniversary Edition' which offers a modest upgrade in picture quality. Apart from that change, however, the two discs are identical.

WAR OF THE WORLDS

After their *Minority Report* debut, Steven Spielberg went back to Cruise for the role of a useless parent tasked with saving his children from an alien invasion in this accomplished adaptation of H.G. Wells' classic novel. As expected from its director, the set-pieces here are remarkable (one, in the basement of a house, channelling his own work in *Jurassic Park*); the visual effects state-of-the-art (for 2005, at least); and the sound design superb – particularly the foghorn-esque callings of the extra-terrestrial Tripods.

Get it: Paramount's 2010 Blu-ray release (now available for under £10) impresses all-round – the DTS-HD 5.1 mix is rich in LFE, extra features cover plenty of ground, and Spielberg's aesthetic style is perfectly captured in hi-def.



Have we missed one of your favourite Tom Cruise movies?
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FOR A NEW
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guide is here
to help

HCC RATINGS KEY...

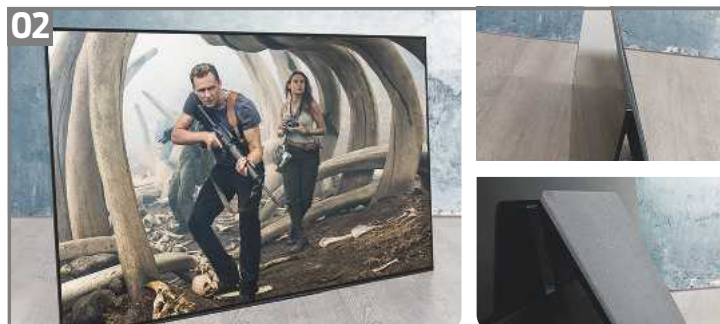
Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★★☆☆
Dire	★★★☆☆

All prices quoted are approximate and may have changed

TOP 10 Televisions

**Sony KD-65ZD9** → £3,500 ★★★★★

Sony finished 2016 on a high with this full-array LED Bravia (with advanced local dimming tech) that claims a 1,800-nit peak brightness. Cinematic, sublime pictures – and Dolby Vision support is a firmware update away. HCC #267

**Sony KD-55A1** → £3,500 ★★★★★

Another Sony set due a Dolby Vision upgrade later this year, this 55in OLED dazzles with its image quality (including superb motion processing), hidden Acoustic Surface speaker technology and eye-catching styling. HCC #275

**LG OLED65E7**

→ £5,000 ★★★★★

3D playback is dropped, but the E7 offers welcome picture improvements over last year's E6, particularly brightness and near-black talents. Supports Dolby Vision. HCC #274

**Panasonic TX-55EZ952**

→ £2,500 ★★★★★

A 55in OLED TV with an effortlessly naturalistic performance, although not as bright as some rivals. Gorgeous, understated design and premium build quality. HCC #277

**Philips 55POS9002**

→ £2,200 ★★★★★

Philips' second-gen Android-powered OLED takes a more refined approach to its processing, focusing on balanced cinematic imagery. Ambilight, as usual, boosts your immersion. HCC #276

**Samsung UE49MU7000**

→ £1,000 ★★★★★

Not one of Samsung's top-flight TVs, but a cracking mid-range 49in model that presents 4K and HD material with bright, rich colours and stable blacks. Good choice for an affordable setup. HCC #277

**Samsung QE65Q9F**

→ £4,900 ★★★★★

This premium 'QLED' screen outguns rivals when it comes to brightness and visual impact. Routinely stunning, but edge LED lighting has some niggles. Supports Samsung's HDR 10+ format. HCC #273

**Sony KD-55XE9005**

→ £1,700 ★★★★★

Sony brings direct LED illumination to the 55in arena. Still not an absolute HDR knockout (local dimming isn't foolproof) but generally this is a good-looking set for the AV everyman. HCC #272

**LG 55SJ850V**

→ £1,300 ★★★★★

Backlight distractions hinder this set's performance in low-lit rooms, but it's a strong all-rounder, offering Dolby Vision HDR, WebOS smarts, well-rounded sonics and a bargain price tag. HCC #276

**Hisense 75M7900**

→ £2,500 ★★★★★

A massive 75in LED set at a bargain price from the Chinese corp. The appeal is its largescreen 4K playback: a lack of innate brightness and colour subtlety hampers HDR performance. HCC #267

TOP 5 Blu-ray movies

**The Fate of the Furious [Ultra HD Blu-ray]**

The eighth entry to the popular franchise continues the feel of parts 5, 6 and 7, with stunts and punch-ups aplenty. Universal's disc marries Dolby Vision HDR to a largescale soundtrack.

★★★★★

**Alien: Covenant [Ultra HD Blu-ray]**

This sequel to a prequel isn't the best of the *Alien* franchise, but still makes for a scary night on your cinema sofa. The 4K disc adds an Atmos audio mix to its assured HDR presentation.

★★★★★

**The Handmaiden**

Park Chan-wook directs this lavish, sensual Korean-language period thriller, which arrives on Blu-ray with gorgeous Theatrical and Extended cuts and accomplished audio. A Q&A with Chan-wook is an extras highlight.

★★★★★

**Logan [Ultra HD Blu-ray]**

A superhero movie with a harder edge than most, *Logan* is the best entry in the X-Men franchise yet. Fox's 4K release offers colour and 'Noir' versions, both impressive in different ways.

★★★★★

**Guardians of the Galaxy: Vol. 2 [Ultra HD Blu-ray]**

Disney's first 4K disc offers reference-grade visuals with expansive contrast and rich colours. The movie is the expected blend of quick wit and explosive set-pieces.

★★★★★

TOP 10 Blu-rays



01 Oppo UDP-203 → £650 ★★★★★

Oppo refreshes its player hardware with a superb universal design with Ultra HD playback (including Dolby Vision via firmware update). Packed with user adjustments and connectivity. No apps or Darbee processing, though. HCC #269



02 Oppo UDP-205 → £1,400 ★★★★★

This pricey, peerless UHD deck flaunts universal disc playback, asynchronous USB input, headphone amp and balanced stereo outs amongst its audiophile features. One for musos. HCC #274



03 Sony UBP-X800 → £400 ★★★★★

Sony embraces UHD Blu-ray with a full-width, sturdy design that'll also spin DVD-A and SACD platters. A great all-rounder, but no current Dolby Vision support or word on an update. HCC #274



04 Panasonic DMP-UB900 → £600 ★★★★★

The Ultra HD Blu-ray format got an inspiring debut in Panasonic's multi-talented deck that offers a sterling picture performance, 4K-enabled VOD apps and analogue audio outs. No DV. HCC #259



05 Panasonic DMP-UB700 → £300 ★★★★★

Shorn of some of the audiophile niceties of the UB900 (including multichannel analogue outputs), but still a safe pair of hands with your 4K BDs. And at a bargain price. HCC #270



06 Arcam FMJ UDP411 → £1,200 ★★★★★

Pristine visuals – including upscaled SD – and a classy sonic performance grant this Arcam instant appeal. The design and build is commensurate with the premium price tag. HCC #244



07 Panasonic DMP-UB300 → £240 ★★★★★

Great 4K imagery from this bargain deck, but you might prefer to up your budget for the UB700 – no split HDMI, optical/coaxial or Wi-Fi connections here. Half-size design for an easy install. HCC #272



08 Samsung UBD-K8500 → £270 ★★★★★

Debut Ultra HD Blu-ray player that finds fans courtesy of its sensible price point (now even lower), connected smarts and eye-catching visuals. Build quality is a little uninspiring. HCC #260



09 LG BP556 → £85 ★★★★★

LG's top-of-the-line(!) Full HD disc-spinner is actually a budget offering. Design is a bit garish, but the addition of multiroom streaming, some smart apps and file playback sweeten the deal. HCC #266



10 Samsung UBD-M9500 → £350 ★★★★★

Second-gen 4K player that adds features (mobile BD streaming, 360-degree image support) but removes 3D playback capability. As before, the chassis is curved. UHD discs look pin-sharp. HCC #275

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TOP 10 Projectors



01 Sony VPL-VW550ES → £9,000 ★★★★★

For its top-range domestic SXRD beamer, Sony introduces an HDR Contrast tool that proves useful in fine-tuning its UHD Blu-ray performance. Excels with standard BD content and setup flexibility, too. *HCC #269*



02 JVC DLA-X7000 → £5,700 ★★★★★

With contrast and brightness improvements over the more affordable DLA-X5000, this is a great bigscreen option, although its SDR playback impresses more than HDR. *HCC #259*



03 Sony VPL-HW45ES

→ £1,850 ★★★★★

The most affordable model in Sony's home cinema range, the Full HD-resolution 45ES features excellent light management for a routinely cinematic image. Great value. *HCC #263*



NEW ENTRY

04 Optoma UHD60

→ £2,400 ★★★★★

An assured Ultra HD debut from Optoma – the UHD60 presents 4K Blu-rays with a pleasing contrast balance and lush detail. SDR-HDR conversion tool is best avoided, though. *HCC #277*



05 Epson EH-TW6700

→ £1,300 ★★★★★

HDR and 4K scaling are off the menu, leaving this mid-range model to concentrate on cinematic HD images. Bright, crisp performance, plenty of tweaks, but no 12V trigger. *HCC #271*



06 Acer V7850

→ £2,700 ★★★★★

One rung below Acer's largescale V9800 4K debut sits this more affordable model. Again, black levels aren't its strong point, but this runs bright, sharp and super-quiet. *HCC #276*



07 Epson EH-TW9300

→ £3,000 ★★★★★

Epson brings HDR playback and 4K up-rezzing to an agreeable price tag. Colourful and well-contrasted visuals, but don't expect an HDR knockout. *HCC #266*



08 Epson EH-TW7300

→ £2,200 ★★★★★

Similar performance traits to its bigger EH-TW9300 sibling, but with reductions in max brightness (and claimed contrast). Currently the most affordable HDR model around. *HCC #269*



09 Optoma GT5000

→ £1,000 ★★★★★

Ultra short-throw PJ with healthy brightness that makes sense for regular living rooms where a traditional install isn't possible. Casts Full HD images from just 30cm. *HCC #261*



10 BenQ W2000

→ £800 ★★★★★

Average black-level performance limits this model's all-round appeal, but elsewhere this Full HD DLP budget PJ catches the eye with its calibration options and detailed visuals. *HCC #257*

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TOP 10 Speakers



01 **Monitor Audio Gold 300AV** →£7,150 ★★★★★
MA revamps its Gold Series and we pay serious attention. This big-ticket package excels across the frequency range, offers exquisite design and packs setup flexibility via the dipole/monopole FX surrounds. *HCC #251*



02 **Q Acoustics 3000 5.1 Cinema Pack** →£700 ★★★★★
A superior compact package with driver improvements over the previous 2000i series. The two-way cabinets and dual-driver sub combine to offer impressive audio for the money. *HCC #247*



03 **KEF R Series 7.1** →£6,500 ★★★★★
A 7.1 set mixing dipolar and direct surrounds, this package takes its cues from KEF's Blade and offers faultless, largescale home cinema sonics. *HCC #217*



04 **Monitor Audio Bronze B5 AV** →£1,500 ★★★★★
Like their Gold siblings, these feature switchable surround speakers and MA's C-CAM drivers. Smaller in stature and output, but eminently more affordable. *HCC #254*



05 **ATC HTS7 5.1** →£3,500 ★★★★★
Brit brand ATC rejigs the driver tech and neutral sound of its SCM range into a wall-mountable, flexible system perfect for discreet AV setups. *HCC #275*



06 **ELAC Debut 5.1.2** →£1,950 ★★★★★
Well-priced floorstanding Atmos system that manages to balance subtlety and precision with an exciting delivery. Subwoofer includes app-based room EQ. *HCC #262*



07 **DALI Opticon 5.1** →£3,200 ★★★★★
The Opticons employ driver designs from DALI's high-end models, and showcase a talent for involving music presentation and thrilling home cinema. *HCC #260*



08 **Polk Signature Series 5.1** →£1,450 ★★★★★
Largescale performance from a well-priced floorstanding system with slimmed-down centre enclosure. Upfront and boisterous sound; a great entertainer. *HCC #273*



09 **Focal Sib Evo Dolby Atmos 5.1.2** →£1,200 ★★★★★
Enjoyable-sounding and well-priced sub/sat system with Atmos upfiring in front L/R enclosures. Not the smallest 'satellite' speakers around. *HCC #276*



10 **Wharfedale DX-1SE** →£400 ★★★★★
Delightfully compact 5.1 package (although with two-way satellite speakers) that blends a tidy design with crisp surround sonics at a very tempting price. *HCC #267*



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TOP 10 AV Receivers/AV Processors



01 Anthem MRX 1120 → £4,000 ★★★★★

Combining Anthem's superb ARC room EQ system with 11-channel amplification makes this an essential consideration for full-spec Atmos setups. Muscular, precise sound. No networking skills, though. HCC #265



02 Arcam AVR850 → £4,500 ★★★★★

High-end seven-channel AVR marrying Class G amplification and Atmos (and future DTS:X) support with talented Dirac Live Room EQ. 11-channel pre-outs for full-fat setups. HCC #257



03 Denon AVR-X4300H → £1,300 ★★★★★

Nine-channel receiver with HEOS multiroom integration and 11-channel processing (Atmos, DTS:X, plus Auro-3D as a paid-for upgrade). Great, detailed sound and foolproof usability. HCC #267



04 Trinnov Audio Altitude32 → £27,000 ★★★★★

Capable of outputting 32 discrete channels and mapping Dolby Atmos, DTS:X and Auro-3D sources to any setup via advanced EQ. Only premium cinema owners need apply, though. HCC #262



05 Sony STR-DN1080 → £550 ★★★★★

Sony is back in the AVR game with a first Atmos model that adds worthy phantom rear speaker processing to its 5.1.2 sonics. A few UI niggles don't take much of the shine off an impressive budget buy. HCC #277



06 Yamaha RX-A3060 → £2,000 ★★★★★

New nine-channel flagship from Yamaha features excellent room EQ implementation, well-judged DSP modes, and an even-handed, effortless sound. HCC #264



07 Denon AVR-X6300H → £2,000 ★★★★★

Denon bundles 11 channels of power, plus cutting-edge features, into this crisp, articulate AV receiver. Ideal partner for 7.1.4 setups, but not quite the muscle-monster you might expect. HCC #269



08 Pioneer VSX-1131 → £550 ★★★★★

Seven-channel model with Atmos and DTS:X support that features an overhauled remote control and UI to improve usability. Bass-rich, energetic sound. HCC #265



09 Yamaha RX-A860 → £900 ★★★★★

Only seven channels and hindered by only three HDCP 2.2-enabled HDMI inputs, but beyond that this flexible MusicCast AVR proves a great listen, with plenty of DSP toys. HCC #270



10 Denon HEOS AVR → £800 ★★★★★

Able to run wireless rears/sub (using HEOS models) and sporting a display-free design, this is a five-channel AVR with a different approach. One for HEOS devotees only. HCC #276

TOP 5 Bonus features



Sam Peckinpah: Man of Iron – The Director's Cut

Arrow Video bolsters its *Bring Me the Head of Alfredo Garcia*: Limited Edition Blu-ray with over 10 hours of extended interviews shot for Paul Joyce's fascinating TV doc about the film's director. ★★★★★



Master Class: Ridley Scott

Not as extensive as previous *Making of...* docs accompanying Scott's movies, but this 56-minute feature joining *Alien: Covenant* is well worth a watch, with a strong focus on SFX and creature design. ★★★★★



Napoleon: Triptych

On a package that also features a remarkable five-hour commentary track, the option to watch the movie's three-panel footage on three displays (via three discs) is the icing on the cake. ★★★★★



The Wild One and the BBFC

Accompanying the Marlon Brando classic, this 25-minute interview with former BBFC examiner Richard Falcon provides absorbing insight into the movie's original controversy and 14-year UK ban. ★★★★★



You're so cool, Brewster!

Fan-pleasing 147-minute retrospective *Fright Night* documentary (edited down from an original much-longer crowd-sourced movie) featuring exclusive interviews and plenty of production nuggets. ★★★★★

TOP 10 Subwoofers



01 SVS SB-2000 → £600 ★★★★★

This follow up to the SB-1000 offers immense value for money. A mid-sized woofer that imbibes Blu-rays with quick, taut and potent LFE, it's a perfect introduction to what a truly good sub can accomplish. HCC #233



02 REL No.25 → £6,500 ★★★★★

REL celebrates its 25th anniversary in style with this 15in/1,000W premium concoction that exhibits exhilarating speed and nuance down to serious depths. Big, but beautiful. HCC #271



03 Bowers & Wilkins DB1D → £3,750 ★★★★★

This sequel to the DB1 moves EQ to an app and changes driver/amp design. Beautifully controlled performance with depth and detail. Gorgeous bodywork. HCC #277



04 JL Audio Fathom f212v2 → £6,500 ★★★★★

A second outing for JL's 2 x 12in monster, with an increase in power (3,600W) and room EQ improvements among the changes. Sounds as good as you'd imagine. HCC #261



05 SVS SB16-Ultra → £2,500 ★★★★★

A 16in driver and 1,500W amp combine to give SVS's flagship sealed sub real appeal. Goes low but remains tight and fast. App-assisted EQ and operation. HCC #270



06 REL T7i → £850 ★★★★★

Easy to house 8in sub (with 10in passive driver). Decent LF extension joined by superb speed. Wireless transmission via optional (£200) system. HCC #277



07 BK Electronics P12-300SB-DF → £475 ★★★★★

Bass heads can get outrageous value for money in the shape of BK's overperforming 12in sub. A front-firing model is also offered. HCC #247



08 Eclipse TD520SW → £3,000 ★★★★★

This twin 8in woofer, driven by ICEpower amplification, aims for ultimate speed and tone – and succeeds. Worth every penny of its asking price. HCC #249



09 GoldenEar SuperSub X → £1,450 ★★★★★

Four drivers squeezed into a relatively compact design and given plenty of push from a 1,400W amp. Standout traits are impact and depth. HCC #272



10 SVS PC-2000 → £800 ★★★★★

Cylinder construction means this 12in, 500W design can boast a large cabinet but a relatively small footprint. Good value with weighty, slamming bass. HCC #267

TOP 5 Console games



Uncharted: Lost Legacy

The Drake brothers are replaced by two new heroines in the latest instalment of Sony's PlayStation puzzler. The open-world element hides the relatively short nature of its story mode; HDR visuals are stunning.

★★★★★



Resident Evil 7: Biohazard

Moving from the familiar third-person perspective to a first-person view was always going to be a risk, but it pays off here with a terrifying return to the series' roots. PS4 Pro owners get enhanced resolution visuals.

★★★★★



Prey

Bethesda's FPS (and reboot of the popular 2006 title) refreshes the genre with inanimate-object-mimicking monsters, and offers plenty of gameplay variety. Good-looking, but 4K is limited to PC-based setups.

★★★★★



Horizon Zero Dawn

Tomb Raider meets Zelda in this PS4-exclusive action-adventure pitting humans against massive mechanical beasts. Excellent gameplay, and the 4K visuals are perhaps the best reason yet to upgrade to a PS4 Pro.

★★★★★



Injustice 2

Brilliant follow up to the 2013 superhero beat-'em-up classic, letting you dole out a good kicking to the bad guys while playing as DC Comics legends. Advanced resolution via PS4, plus HDR, too.

★★★★★

TOP 10 Accessories



01 KEF R50 → £600 ★★★★★

KEF's Dolby Atmos-enabled reflective modules are a smart choice to beef up a system. Using the company's Uni-Q point source drivers pays dividends, enabling full-range sonics that reach deep into your cinema room. First-rate build. *HCC #252*



03



Amazon Echo Dot

→ £50 ★★★★★

Less impressive as a standalone speaker than its larger sibling, but a third of the price, and its 3.5mm output lets it work with third-party kit. Fun AI experience. A real bargain. *HCC #269*

04



Nvidia Shield Android TV

→ £180 ★★★★★

The Android-based streamer/gaming box gets a gentle revamp – same silicon, neater design, new features including future support for Google Assistant. Slick and easy to use. *HCC #272*

05



Amazon Fire TV

→ £80 ★★★★★

Media streamer with impressive search functionality and plenty of content, including 4K Netflix and Amazon Video. HDR support would be nice, though. *HCC #270*

06



Logitech Harmony Elite

→ £270 ★★★★★

Flexible and relatively easy to set up, this all-in-one remote package combines touchscreen handset and hub with smart device app. Worthwhile if you have a stacked kit rack. *HCC #256*

07



Devolo Wi-Fi ac Repeater

→ £50 ★★★★★

Simple plug-based add-on that extends the range of your Wi-Fi network, and offers hardwired access. Could be just the ticket for your loft-based movie room. *HCC #269*

08



Xbox One S

→ From £250 ★★★★★

The retooled Xbox One adds Ultra HD Blu-ray playback, 4K streaming and HDR gaming to the feature list. Available in 500GB/1TB/2TB versions. *HCC #264*

09



PSB Imagine XA

→ £350 ★★★★★

These two-way Dolby Atmos-enabled upfiring speakers are fairly chunky, but work well at creating a height layer and the £350-per-pair ticket makes them an enticing option. *HCC #264*

10



DVDO iScan Mini

→ £275 ★★★★★

HDMI 4K upscaler (using Silicon Image's VRS processing) that teases sharpness from HD and SD sources. A good fit for an entry-level or mid-range 4K TV. *HCC #264*

TOP 5 Blu-ray/DVD boxsets



American Gods: Complete Season One

Adapted from Neil Gaiman's 2001 fantasy novel, this US series hits the ground running with a wonderfully weird and eye-catching first batch of eight episodes. Addictive stuff. ★★★★★



Doctor Who: The Power of the Daleks

Unseen since 1966, this missing BBC serial has been recreated using animation – with the choice of colour or black-and-white incarnations – and packs a TARDIS-load of extras. ★★★★★



Vikings: Season 4 – Volume 2

The fourth season of this delicious Dark Age drama closes out in style, and this three-disc set boosts the appeal with rampaging DTS-HD MA 5.1 mixes and informative extras. ★★★★★



The 4 Marx Brothers at Paramount (1929-1933)

Five classic comedies from the family troupe get the deluxe treatment – new 1080p transfers from 4K restorations, oodles of bonus goodies – on a pleasing three-disc set. ★★★★★



The Mummy Trilogy [Ultra HD Blu-ray]

Universal digs out its Brendan Fraser fantasy/action series for an HDR do-over (with DTS:X audio). Image quality varies across the three, but is a good improvement on previous BDs. ★★★★★

TOP 10 Soundbars & Soundbases



01 Yamaha YSP-5600SW →£1,900 ★★★★★
With its 46 drivers (including upfiring) this premium 'bar delivers precisely-steered and immersive audio, even of the Atmos variety. Potent wireless sub and 4K-capable HDMI switching sweeten the high-end deal. HCC #254



02 Canton DM55 →£330 ★★★★★
Canton's smallest soundbase still delivers big sonic thrills. Twin woofers underpin clean and crisp mids and highs, and build quality is first-rate. Doddle to use. Bluetooth built-in. HCC #260



03 Samsung HW-K950 →£1,300 ★★★★★
Soundbar with additional wireless rears and Dolby Atmos support via four upfiring drivers. Impressively largescale performance, good connectivity. No native DTS support. HCC #263



04 Samsung HW-MS650 →£600 ★★★★★
Superior signal processing and a ground-up design make Samsung's subwoofer-free soundbar thrillingly impressive with movie, TV and music material. Expandable to 5.1. HCC #273



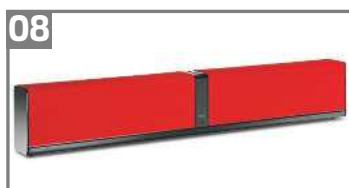
05 Sony HT-ST5000 →£1,500 ★★★★★
High-end Dolby Atmos-capable soundbar/sub. Upfiring elevate the soundstage (but don't wraparound). Sound quality overall is excellent, blending muscle and depth with musicality. HCC #275



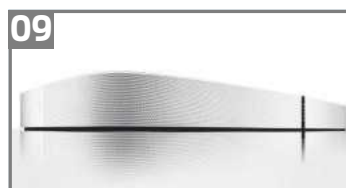
06 Cabasse Stream BAR →£850 ★★★★★
Soundbar/hi-res speaker that's blessed with real musicality, but doesn't fall short when it comes to energetic film soundtracks. HDMI in/out, but v1.4 only. HCC #269



07 Q Acoustics M3 →£300 ★★★★★
A 4in x 6in woofer is tucked away in the M3's eye-catching angular chassis, ensuring this well-priced soundbar has a full-range performance. Simple to use. Bluetooth streaming. HCC #271



08 DALI Kubik One →£800 ★★★★★
The Danish speaker brand brings a slice of glamour to your setup with this stylish soundbar. No HDMI or digital decoding but it packs a tight, lively and nuanced sound. HCC #269



09 Sonos Playbase →£700 ★★★★★
Although this features the same foibles as the Sonos Playbar (no Bluetooth, no HDMI, no DTS), this multiroom maestro looks good and sounds good. Detailed, with naturalistic bass. HCC #273



10 LG SJ9 →£1,000 ★★★★★
While Dolby Atmos compatible (with dual upfiring drivers), LG's premium bar/sub combi leaves a greater impression with its fulsome delivery and good connectivity. HCC #274

TOP 5 Back-catalogue Blu-rays



Ronin
One of Hollywood's greatest car-chase flicks (buoyed by a cast including Robert De Niro and Jean Reno) gets a pristine new 1080p image courtesy of a 4K scan. Arrow Video has rustled up some good bonus bits, too. ★★★★★



The Fabulous Baron Munchausen
Karel Zeman's 1962 mix of live-action and highly stylised animation looks ravishing on Second Sight's welcome BD release, and fans of this fantasy film will dig the extras. ★★★★★



The Graduate: 50th Anniversary Edition
Dustin Hoffman's breakout movie enjoys a new encode based on a 4K master, and director-approved DTS-HD MA 5.1 track, on this celebratory Blu-ray re-release. Packed with extras. ★★★★★



The Bird With The Crystal Plumage
Dario Argento's genre-defining giallo gets a second Blu-ray release, making amends for a previous aspect ratio error, improving image quality and offering new extras. ★★★★★



Dredd [Ultra HD Blu-ray]
This brutal comic adaptation gets a new lease of life, not only with improved 4K/HDR imagery but with an Atmos soundmix that ramps up the mayhem. The 1080p platter contains extras and the 3D version. Bargain. ★★★★★



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TOP 5 PVRs



Virgin Media TiVo, £subscription

This triple-tuner PVR offers recording flexibility, useful features – you can undelete deleted shows! – and smart TiVo functionality. If you're in a cable area, consider it

★★★★★



Sky Q, £subscription

Sky's new top-tier product offering dazzles with its image-rich user interface, wireless multiroom skills and recording flexibility delivered by the PVR's 12 tuners. Now supports 4K content

★★★★★



Humax HDR-1100S, £190

Freesat Freetime PVR that impresses with its usability, VOD options and form factor – Humax's small, white box will slot into any kit rack. We tested the 500GB version – 1TB and 2TB models are also available

★★★★★



Humax DTR-T4000, £subscription

This YouView-based PVR is required to get BT Sport's new Ultra HD channel – available to those with BT fast fibre and a BT TV sub. Easy to use and with 1TB of storage

★★★★★



EE TV Smart Box £subscription

This quad-tuner 1TB PVR, from the mobile/broadband corp, offers innovative Replay 24-hour channel recording and great Smart device streaming. Needs more catch-up though

★★★★★

TOP 5 Headphones



Sony MDR-HW700DS, £800

Comfy cans supplied with an HDMI surround processor, enabling multichannel audio to be fed to a virtual 9.1-channel soundstage. The effect is superb – great for late-night listening

★★★★★



Sony MDR-1000X, £360

Superior noise-cancelling cans with hi-res audio support via Sony's LDAC wireless transmission tech. Slick, touch-sensitive operation and healthy battery life. Fulsome sound and comfy to wear

★★★★★



1More MK802, £150

Ignore the bling-tastic blue or red finishes and focus on the assured sound performance from these well-priced closed-back cans. Features include wireless Bluetooth and app control (with burn-in mode). Great value

★★★★★



PSB M4U1, £220

Aimed at both home and on-the-move use (and supplied with a carry case and two cable options), the M4U1s offer solid bass response and impactful highs. Build quality is good, as is comfort

★★★★★



Bose QC35, £290

The latest in the QuietComfort range ditches the wired connection in favour of Bluetooth but retains Bose's luxurious styling and rich performance. Noise-cancelling mode is very efficient

★★★★★

TOP 5 Wireless speakers



KEF Muo, £300

Portable Bluetooth speaker that's a cut above much of the competition. KEF's sonic knowhow results in a punchy, dynamic presentation that cherishes lossless rips. Excellent build quality

★★★★★



Sony SRS-X11, £60

An affordable palm-sized Bluetooth speaker with internal rechargeable battery, Sony's SRS-X11 is supremely portable and sounds decent for the money. A neat little gizmo. Get two and they can work in stereo

★★★★★



Q Acoustics BT3, £280

Bluetooth stereo pair with optical input makes a good alternative to a soundbar (there's even a subwoofer pre-out) while remaining a dab hand at music. Neat and tidy design, good price

★★★★★



Simple Audio Listen, £400

Desktop stereo speakers with Bluetooth support, these benefit from separate tweeter/midbass units and a classy construction. Performance is well-balanced, and a subwoofer output is offered for extra bass

★★★★★



Denon HEOS 5 HS2, £350

The mid-range multiroom speaker gets a second-gen revamp, adding welcome hi-res audio playback and Bluetooth connectivity. Gorgeous looks, boisterous, room-filling sound

★★★★★

HOME CINEMA

Choice

→ IN THE NEXT ISSUE

Dream Theatres The best of the UK's home cinemas revealed in the annual CEDIA awards

Wall of sound Wisdom Audio's in-wall Insight system gives us goosebumps

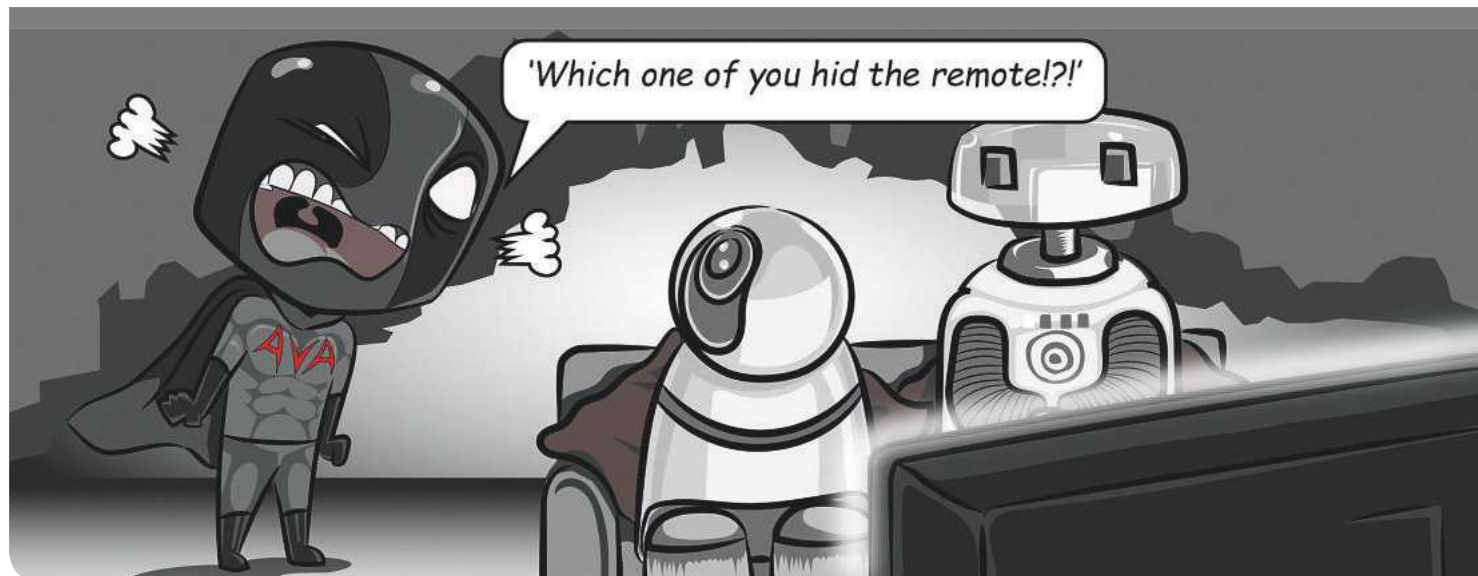
The car's the star Cinema's best auto-action

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CONTENTS SUBJECT TO CHANGE – BUT ONLY FOR THE BETTER

ISSUE
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Nov 2



AV Avenger

The connected appliance uprising is just a dawn away, suggests **Steve May**. He's fine with that, as long as manufacturers look to classic sci-fi flicks to get the styling right

IT'S NOT JUST androids who are dreaming of electric sheep. This year's IFA tech-fest was awash with robotica, both large and small, brilliant and barmy. Fuelled by advances in artificial intelligence and buoyed by the explosive success of smart assistant speakers, it seems every brand wants to be the next Skynet. Personally, I'm all for it. If I don't get a robot butler before I pop my clogs, I'll be sorely disappointed.

My best hope is probably LG. Visitors to LG's IFA stand were welcomed by a rather imposing Airport Guide droid. On secondment from Incheon International, this 'bot normally spends its days polishing the floor (as evidenced by big brush 'feet') and fielding questions in Korean, English, Chinese and Japanese. It will even escort travellers to departure gates, albeit at a leisurely pace.

I rather liked his stoic demeanour. And if he ever did harbour Terminator-style thoughts, I suspect he'd be rather easy to outmanoeuvre – and my floors would benefit from any hot pursuit.

Meanwhile, Panasonic presented a prototype 'Sustainable Clothing Maintainer' (might need to work on that if they want to turn it into a film franchise) able to analyse material against a database before washing, drying, and then folding your smalls. Still some way off the robomaid I hanker for, but at least it's on the right track.

Bizarrely, if there is a robotic uprising on the cards, it looks likely to emanate from the kitchen. Voice interaction, personal assistants, app-control; the kitchen is on course for a major technology upgrade. I suspect the refrigerator of tomorrow will be so full of cameras and sensors, there'll scarcely be room to chill a sausage.

One of the more bizarre concept products was Panasonic's mobile fridge, incorporating voice

control and autonomous movement. It's supposedly able to bring snacks and beverages within easy reach. Given that our government has been advocating the sedentary populace get out for a brisk walk every now and then, the idea of robotic appliances that save you the bother of getting up seems a tad irresponsible. But I liked the fact that it appeared to be taking at least some inspiration from Huey, Dewey and Louie, the waddling robots from *Silent Running*. And **a moving cooler might be the finishing touch to a premium home cinema.**

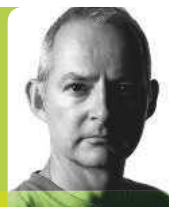
Robot vacuum cleaners are also still a thing, although my own experiences with them haven't been overly rewarding. My last started talking to me in German and would shut down with a Teutonic error message whenever it swept up a bit of fluff. Having said that, Neato's new Botvac D7 Connected has proprietary FloorPlanner Advanced Mapping Technology, allowing you to create a cleaning map of your digs. Who wouldn't want that?

Of course, any robot appliance really needs to look like B9 from the TV series *Lost in Space*. Designed by Robert Kinoshita, this remains aesthetically the finest 'bot ever conceived. I got to see it in the tin (as it were), at the Barbican's *Into The Unknown* exhibition this Summer, and it's as futuristic now as it was back in 1965.

I also recently caught the new IMAX version of *Blade Runner: The Final Cut* (in the company of Sir Ridley Scott, no less), but couldn't help imagining Sean Young's Rachel speaking with the voice of Amazon's Alexa. This puts an entirely new spin on the film, and has rather changed the way I interact with my own Echo. But the less said about that, the better... ■

*What's your favourite movie robot?
Let us know: email letters@homecinemachoice.com*

Steve May is looking forward to the time when he can get a robot to place all his Blu-ray discs back in their correct cases.





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